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Math Puzzles and Logic Problems

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The puzzles in this magazine were first published in issues of *Dell Math Puzzles and Logic Problems.*

Calendar of on-sale dates for Dell puzzle magazines is on page 61.

LETTER FROM THE EDITORS

Welcome, solvers, to this latest issue of *Best of Math Puzzles and Logic Problems*. Usually this space is reserved for *us*, the editors, to talk about the magazine; instead, we'll change things up this time and hear what some of *you* have had to say about *Math and Logic*:

"As a high-school senior and member of my school's Gifted and Talented Education Program, last year I had the opportunity to help with an outreach program involving older mentors working with elementary students. I taught five fifth-graders logic and problem-solving skills and would have been lost if I hadn't received a subscription to your magazine from my mom. Thanks for being there."

Angela M. Marvin, Madison, New Jersey

"I want you to know how much I enjoyed Jean Upshall's 'Unappetizing Appetizers' Logic Problem in the May issue of *Math and Logic*. Although I wouldn't want to try any of the dishes made by the six-year-old in the puzzle, the little girl wasn't too far off from a dish my grandmother made 50 years ago. She called it banana salad. Each diner got half a banana cut in two slices the long way. These were spread with peanut butter and set on a bed of lettuce with dollops of mayonnaise spooned around the edges of the lettuce. A few salted peanuts were used as garnish. It was good, but I wouldn't want to try it together with Ms. Upshall's stuffed mushrooms! When we were children, my cousin and I used to make up funny menus with names such as 'Pink Dic-a-Dee Oysters.' Though he now lives in Florida, and I in Ohio, we still laugh over the fun we had making up menus and showing them to our families. They just thought we were crazy! In fact, I recently asked my 88-year-old mother about it, and she said, 'We never batted an eye, as it was just the usual thing for you two.' Thanks for such a humorous, enjoyable puzzle and for letting me share this recollection!"

Mrs. Shirley Ann Halk, Springfield, Ohio

"As per your suggestion in the January 'Best of' issue, I'm writing to say hi and to let you know how much I enjoy *Math Puzzles and Logic Problems*. I am a retired computer-science professor, and feel elated when I can solve one of the challenging mathematical puzzles. It reassures me that I may still retain a measure of the intellectual capability I had in my earlier years. The pleasure is further enhanced when I find some anomaly in your solution. Your answer for Problem 4 in January's Mathematical Deduction is **21— divide right by left, multiply by bottom**. Although correct, your answer is not unique: **189 — multiply all three together** is just as good."

Michael R. Gross, McMurray, Pennsylvania

That's all the letters we could fit for now, folks, but please be in touch with us about your puzzle likes, dislikes, concerns, or questions. We can now also be reached via e-mail so we look forward to hearing from even more of you. Send your correspondence to:

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The September issue of *Dell Math Puzzles and Logic Problems* goes on sale July 20.

the Editors

LOGIC PROBLEM

1. MUNCHIES, MOM, AND THE MALL

by DIANE C. BALDWIN

The four Roberts sisters, including Tina, went to the mall to buy their mother a birthday present. Even after much discussion, they couldn't agree on a gift, so they decided they would get Mom four different presents. When they met for lunch at Mall Munchies and discussed what they had purchased and where they made the purchases, they were surprised that, by chance, the four had bought four different articles of clothing in four different stores (one was Clothes Galore). From the following clues, can you determine what each sister purchased and where each made her purchase, along with the order in which the sisters came into Mall Munchies for lunch?

1. The sister who purchased the coat showed up for lunch just after the sister who bought her gift in Fashion Box.
2. Pat came into the restaurant just after the skirt purchaser and just before the Style Shop shopper.
3. Cindy didn't buy the dress and didn't arrive last for lunch.
4. Fay came into Mall Munchies just after the sister whose gift came from Chic Boutique but before the sweater purchaser.

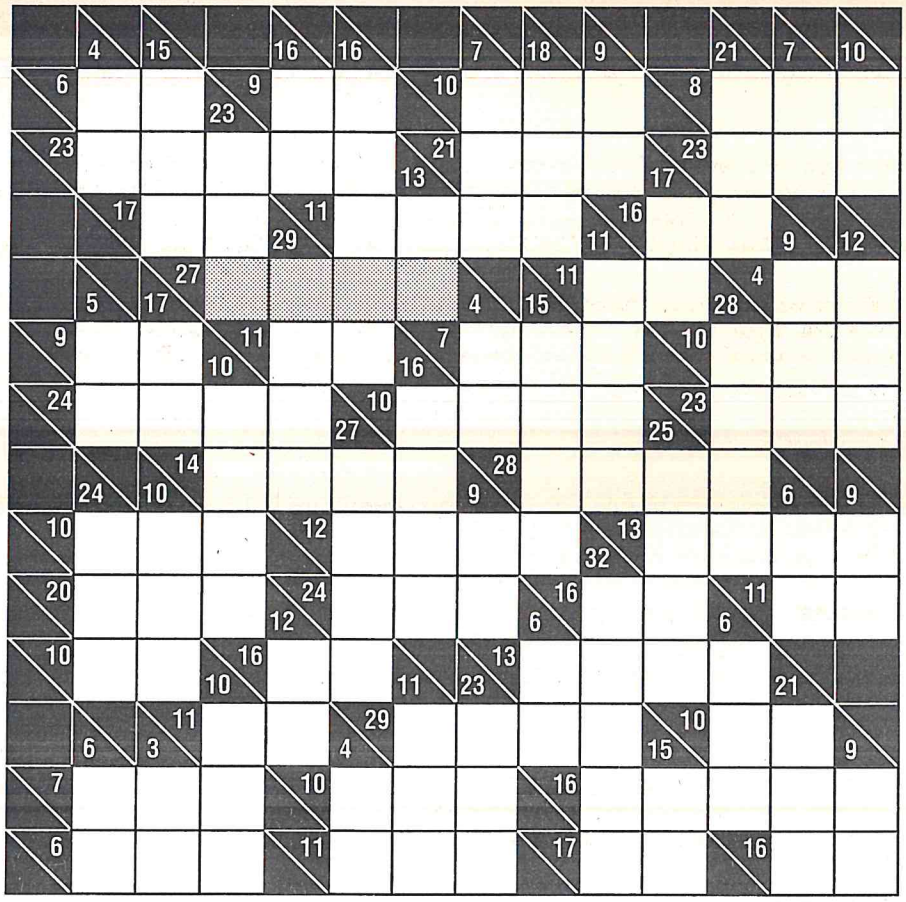
Solution is on page 92.

If you care to use the chart below in solving this problem, you do so by entering all information obtained from the clues using, perhaps, an X to indicate a definite "no" and a dot to show a definite "yes." Remember: Once you enter a definite "yes" (dot), place a "no" (X) in all the rest of the boxes in each row and column that contains the dot.

	Cindy	Fay	Pat	Tina	coat	dress	skirt	sweater	1st	2nd	3rd	4th
Chic Boutique												
Clothes Galore												
Fashion Box												
Style Shop												
1st												
2nd												
3rd												
4th												
coat												
dress												
skirt												
sweater												

If you wish to learn more about the use of Logic Problem charts and how they can assist you, send for a free leaflet of easy-to-follow instructions, "Solving Logic Problems, Step by Step." Mail to Best of Dell Math Puzzles and Logic Problems, Dept. L.P., Dell Magazines Direct, 6 Prowitt St., Norwalk, CT 06855-1220. Please enclose a stamped, self-addressed envelope (long-letter size, if possible, please).

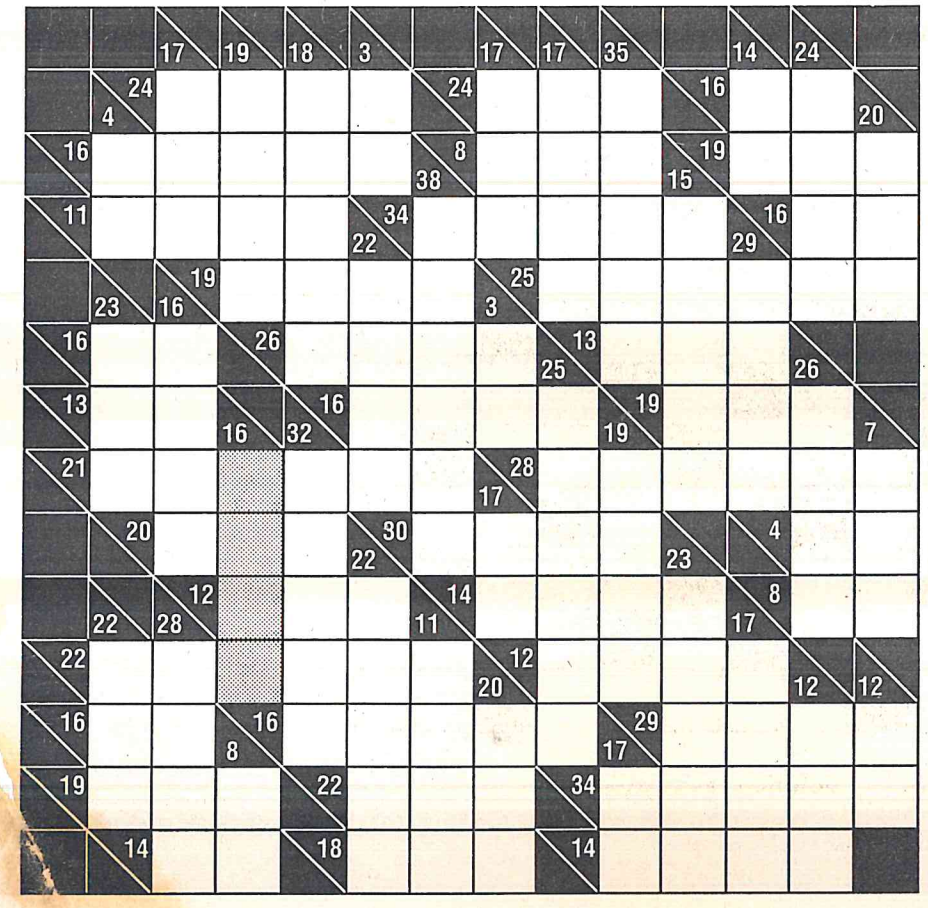
CROSS SUMS



NUMBER 1

In these puzzles, the numbers in the black squares refer to the SUMS of the digits which you are to fill into the empty spaces. The number ABOVE the diagonal line refers to the empty spaces directly to the RIGHT of that number. A number BELOW the diagonal line refers to the empty spaces directly BELOW that number.

No zeros are used here, only the digits one through nine. An important point: A digit cannot appear more than once in any particular digit combination. We have shaded one area in each diagram. If you need help starting a puzzle, the digit combination to go into that area is given on page 97.



Solutions are on page 88.

NUMBER 2

Add more to your total puzzle enjoyment with ***Collector's Series Cross Sums.*** *You'll find over 100 of your favorites. To order, see page 15.*

FIGURE LOGIC 1

by L.G. HORSEFIELD

Solve Figure Logic by completing some simple arithmetic problems, which will enable you to move from clue to clue through the puzzle.

TO PROCEED:

Look at the diagram at the bottom of the page and note that the number "137," answering clue 3-Down, has been entered as a starting point. The clue for 3-Down says that the answer is "Six more than 20-Down." You can now enter the answer to 20-Down into the diagram in the appropriate boxes. Your next step might be to the clue for 20-Down, or to some other clue that mentions either 3-Down or 20-Down. Continue solving by going from clue to clue in this manner.

You may discover that, at times, you will not be able to complete an entire number at first, but you may be able, by logic, to determine what one or more of the digits must be. If you enter those digits into the diagram, they may help you to solve other clues, and you can eventually return to the unfinished numbers and finally complete them.

NOTE: A square of a number is that number multiplied by itself. For example, the square of 6 is 36 (6 x 6 = 36).

ACROSS

1. 25-Down plus 26-Down
3. Square of 3-Down
6. First two digits of 30-Across
8. Seven times 18-Down
10. 24-Across plus 29-Across
12. Twice 28-Down
14. Four times 31-Across
15. One more than 26-Down
16. Six times 4-Down
17. One more than 2-Down
19. Five times 22-Down
21. 17-Across plus 26-Down
24. Three times 14-Down
27. 17-Across times 3-Down
29. 6-Across plus 4-Down
30. Eleven times 24-Across
31. Four more than 29-Across

DOWN

1. 1-Across times 25-Down
2. Two-thirds of 1-Across
3. Six more than 20-Down
4. Six times 6-Down
5. Seven times 20-Down
6. First two digits of 3-Down
7. Twice 21-Across
9. Square of 12-Across
11. Square of 22-Down
13. Thirteen times 26-Down
14. Five more than 14-Across
18. Digits of 5-Down reversed
20. 15-Across plus 26-Down
22. Fifteen less than 12-Across
23. Twice 3-Down
25. One-fifth of 2-Down
26. Five times 6-Down
28. One less than 29-Across

1 7	2 5	■	3 1	8	7	6	5 9	■	6 1	7 2
8 5	0	9 3	3	■	8	■	10 1	11 2	3	3
0	■	12 1	7	13 8	■	14 3	7	6	■	2
■	15 6	6	■	16 4	6	8	■	17 5	1	■
18 7	■	19 8	20 1	5	■	21 1	22 1	6	■	23 2
24 1	25 1	4	3	■	26 6	■	27 9	9	28 8	7
29 9	0	■	30 1	2	5	7	3	■	31 9	4

Solution is on page 89

LOGIC PROBLEM

2. THE HOUSE OF BEAUTY

by William Organ

Perryville's only beauty shop, the House of Beauty, employs five young women, each of whom has a different beauty specialty. The shop is open every day of the week except Sunday, and each girl has a different day off. None takes Thursday off, since the owner of the shop takes that day off herself. From the following clues, can you determine each girl's beauty specialty, how long she has been at the House of Beauty (3, 6, 7, 11, or 12 months), and her day off?

1. Carla and the girl who has been employed for the shortest time ride to work with Bunny (except on Saturday, which is Bunny's day off). The one who specializes in manicuring and the one who has Wednesday off come to work in their own cars.
2. Poppy, who has not been with the shop the shortest time, has been employed there exactly half as long as the skin specialist. Poppy's day off is not Wednesday.
3. Tammy has Monday off.
4. Bunny, the make-up specialist, is not the one who has been employed the longest.
5. The hair specialist, the manicurist, and the massage specialist, in that order, are off on successive days.
6. Char has been employed 7 months.

Solution is on page 92.

See page 5 for instructions on using standard charts.

	hair	make.	mani.	mass.	skin	M	T	W	F	S	3	6	7	11	12
Bunny															
Carla															
Char															
Poppy															
Tammy															
3															
6															
7															
11															
12															
M															
T															
W															
F															
S															

HOW WELL DO YOU FOLLOW DIRECTIONS?

If you follow the directions given below carefully, you will change MYSTERY WRITER into the name of a well-known author. Be sure to work carefully, in order, step by step, for this puzzle is tricky. We have provided space for solving and have started you off by printing MYSTERYWRITER, the direction given in step 1. See if you can solve this puzzle correctly on the first try.

Answer is on page 95.

1. Print the words MYSTERY WRITER. Omit the space between the two words. — 1. MYSTERYWRITER
2. Remove the 2nd and 6th consonants from the left; replace them with H's. — 2. _____
3. Move the 3rd consonant from the left so that it becomes the 4th letter from the right. — 3. _____
4. Remove the 4th consonant from the left and the 1st consonant from the right; replace them with C and I respectively. — 4. _____
5. Remove the 1st vowel from the left and replace it with a G. — 5. _____
6. Exchange the positions of the 1st and 4th consonants from the left. — 6. _____
7. Insert an A after each of the first three consonants from the left. — 7. _____
8. Move the 2nd consonant from the left so it becomes the 5th letter from the left. — 8. _____
9. Reverse the order of the first 2 letters at the left. — 9. _____
10. Remove the 4th consonant from the left and the 4th consonant from the right. — 10. _____
11. Reverse the order of the 1st and 2nd vowels from the right. — 11. _____

Who's the author?

A BEELINE FOR YOUR BUS LINE

The bus stop that you use every morning is not only on the same street on which you live, but also on the same side of the street. Nevertheless, when you leave your home in the morning, you cross the street diagonally to get to the other side.

Having once crossed the street, you cross it again diagonally to reach your bus stop. In spite of crossing the same street twice, you have actually used the shortest possible way to get to the bus stop.

How can you explain such a seemingly impossible beeline to the bus line?

Answer is on page 96.

ARTFUL TEASERS

36 TRIOS EQUAL 15

In this puzzle, a trio consists of three numbers that add up to 15 and can be found on a straight diagonal line in the diagram below. Can you find all 36 trios?

Solution is on page 90.

9	5	3	1	7	13	9	1	5	5	9	3
3	7	7	3	1	9	5	3	5	5	5	3
7	5	7	1	9	9	5	7	1	3	7	7
9	3	7	1	9	9	5	11	7	7	3	13
9	3	3	5	1	3	1	9	3	5	3	3
1	9	7	3	9	1	1	3	9	1	5	5
3	1	5	5	13	13	11	5	7	1	1	3
1	7	3	11	1	3	5	7	1	9	5	9
9	3	9	11	1	5	1	1	5	1	1	3
5	7	9	9	9	1	7	3	3	5	13	7
1	1	1	5	1	5	9	5	3	11	1	3
5	7	5	7	5	5	1	5	3	9	5	1

NUMBER PATH

Starting with the arrow at the upper left-hand corner and ending at the arrow at the bottom right-hand corner, find the path that will allow you to exit with 0 points scored. Add, subtract, multiply, and divide as directed, and move up, down, left, or right only (no diagonal moves are allowed). You will not use all of the squares in the diagram to reach the finish.

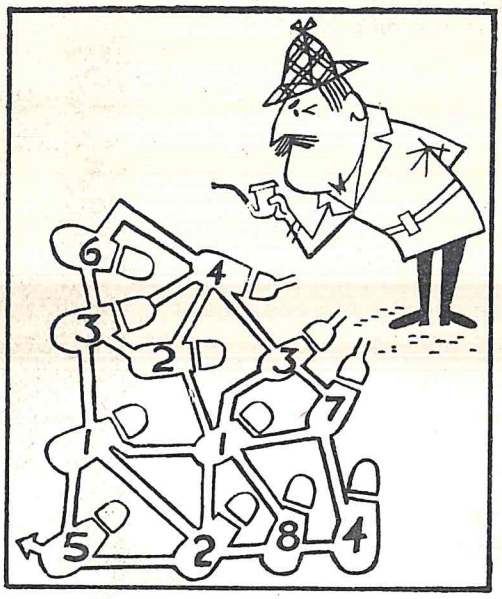
Solution is on page 90.

4	÷	7	x	8	÷
+	5			+	3
3					x
x					2
2	÷			9	+
+	7			x	7
9	−	5	÷	6	−
+	3	x	2	÷	3

THE MYSTERIOUS FOOTPRINTS

Help the detective by trailing the mysterious "25" bandit from the detective to the exit arrow in such a way that the numbers in the footprints you "walk in" add up to exactly 25.

Solution is on page 90.



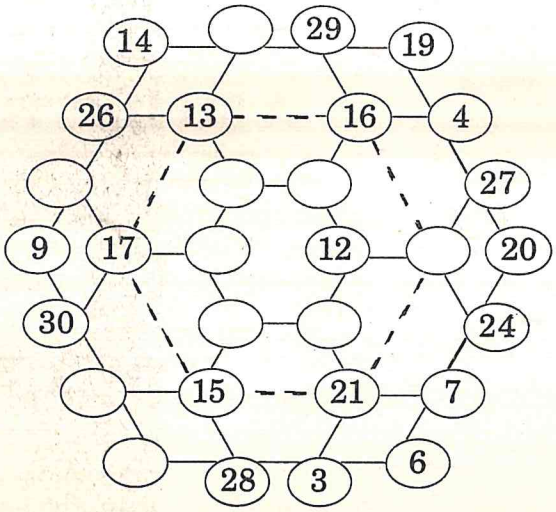
HEXAGONAL NUMBERS

Place the numbers from 1 to 30 once each in the circles so that the numbers on the six points of each hexagon add up to 93.

A hexagon is a 6-sided figure, as shown to the right, and there are 9 regular hexagons in this diagram: 7 small ones, the one indicated by the dashed lines, and the outer hexagon.

Several numbers have been entered to get you started; remember to cross off those numbers before you begin.

Solution is on page 90.



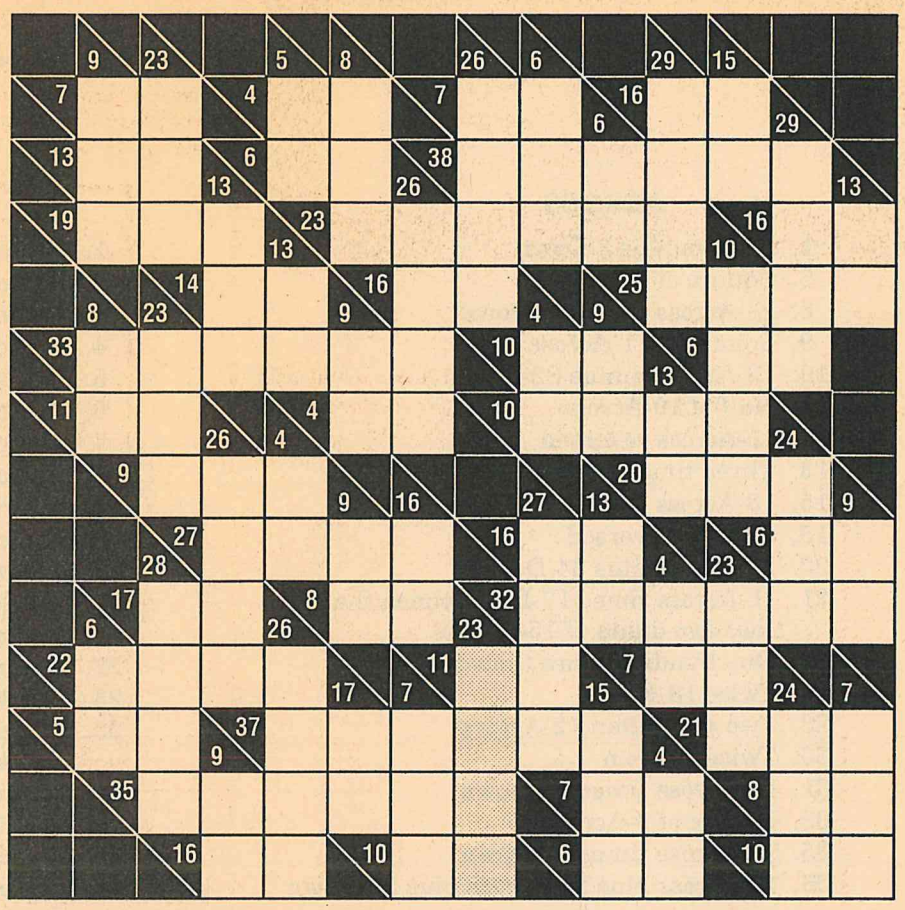
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

17 18 19 20 21 22 23 24 25 26 27 28 29 30

CROSS SUMS

NUMBER 3

If you need help starting a puzzle, the digit combination to go into its shaded area is on page 97.



See page 6 for solving directions.

Solutions are on page 88.

NUMBER 4

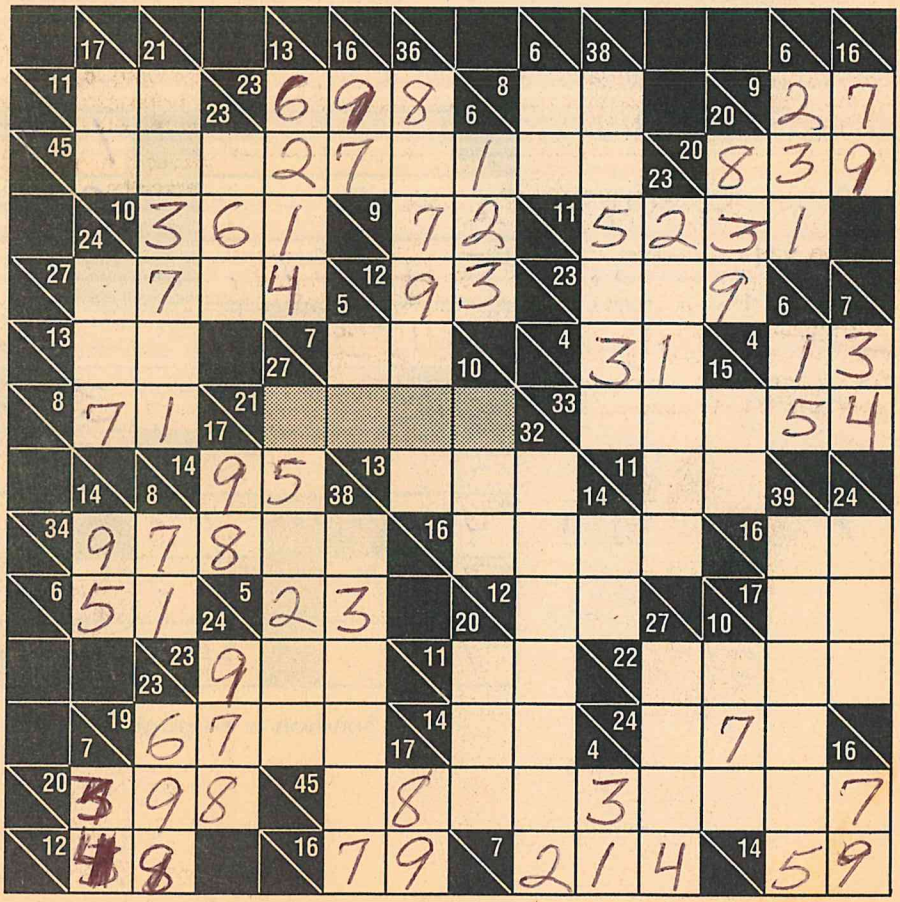


FIGURE LOGIC 2

Directions for solving Figure Logics are on page 7.

ACROSS

1. 1-Down plus 3-Down
5. Square of 5-Down
8. 11-Across times 22-Down
9. Square of 11-Across
10. 12-Across minus 32-Down
11. Half of 10-Across
12. 11-Across reversed
13. Three times 12-Across
15. 13-Across times 12-Across
18. 5-Down reversed
20. 27-Across plus 34-Down
21. 11-Across times 17-Down times the last two digits of 15-Across
24. One hundred more than 5-Across
27. Twice 18-Across
28. Two more than 12-Across
30. Twice 5-Down
31. 28-Across times 19-Down
33. Square of 9-Across
35. 18-Across times 32-Down
36. 11-Across plus 28-Across plus 25-Down

DOWN

1. Square of 12-Across
2. 10-Across plus 18-Across
3. Seven times 28-Across
4. 22-Down plus four times 26-Down
5. Five less than 11-Across
6. 18-Across times 8-Down
7. 33-Across divided by 11-Across
8. 24-Across minus 5-Down
14. 9-Across plus 32-Down
16. 12-Across minus 5-Down
17. 5-Down times 19-Down
19. One less than 5-Down
21. 20-Across times 16-Down
22. 11-Across times 12-Across
23. 5-Down times 8-Down
25. 17-Down times the sum of 18-Across and 19-Down
26. Square of 18-Across
29. Nine times 32-Down
32. 28-Across reversed
34. 10-Across plus 11-Across

	1 5	2 5	3 5	4 2		5 1	6 4	7 4
8 2	0	5	1	9		9 2	8	9
10 3	4		11 1	7			12 7	1
13 2	1	14 3		15 1	16 5	17 1	2	3
		18 2	19 1		20 9	3		
21 5	22 1	6	1	23 2		24 2	25 4	26 4
27 4	2			28 7	29 3		30 2	4
31 8	0	32 3		33 8	3	34 5	2	1
35 7	7	7		36 4	3	1	4	

Solution is on page 89

LOGIC PROBLEM

3. A DAY AT THE RACES **by VARDA MASLOWSKI**

On the last day of the October meet at the Brunerville Race Track, the winners of the first four races broke speed records that had stood for years. Each race was won by a different jockey and a different horse, including Baby Bonnet. From the following clues, can you determine the full name of each jockey and the winning horse for each of the four races?

1. Edward's horse won before Cobbler's, whose horse won before the race which Bonnie Blue won (which was not the race that Patrick's horse won).

2. Julie won before at least one other jockey but after the race which Bobby's Choice won; Week was not the winning jockey in the first race.

3. Blue Eyes, William, and Ore, in that order, won consecutive races.

4. Arcade's horse won the race immediately before William's smashed the track record.

Solution is on page 92.

See page 5 for instructions on using standard charts.

	Arcade	Cobbler	Ore	Week	Baby Bonnet	Blue Eyes	Bobby's Choice	Bonnie Blue	1st	2nd	3rd	4th
Edward												
Julie												
Patrick												
William												
1st												
2nd												
3rd												
4th												
Baby Bonnet												
Blue Eyes												
Bobby's Choice												
Bonnie Blue												

CROSS NUMBERS

The idea here is to arrive at the numbers in the bottom row and right-hand column of each diagram by following the arithmetic signs in the order they are given (that is, from left to right and top to bottom), using only the numbers given below the diagram.

Solutions are on page 90.

1.

	×		÷		10
+		+		×	
	+		×		63
−		+		−	
	×		÷		18
9		20		27	

1 2 3 4 5 6 7 8 9

2.

	+		×		63
×		×		−	
	−		+		6
÷		+		+	
	×		−		3
20		18		15	

1 2 3 4 5 6 7 8 9

WORD ARITHMETIC

These are long-division problems in which letters are substituted for numbers. Solve the problem; determine the number value of each letter; and, when the letters in each one have been arranged in order from 0 to 9, they will spell out a word or words.

Solutions are on page 97.

1.

0 1 2 3 4 5 6 7 8 9

```
            ROARS
TOUR | CASUALLY
       TOUR
       SSRRA
       SSATO
         LSLL
         TOUR
         RLTYY
         RTRLS
          UUKU
```

2.

0 1 2 3 4 5 6 7 8 9

```
            DIN
LIED | MEDICO
       LIED
       DMDDC
       DICEI
        OUDIO
        OOMEN
         DTDL
```

3.

0 1 2 3 4 5 6 7 8 9

```
            HALE
EFT | ASSIST
      EFT
      TELI
      THAH
       ISHS
       IAHG
        IWHT
        HGHI
         IWH
```

4.

0 1 2 3 4 5 6 7 8 9

```
            OUT
AUTO | THRUST
       AUTO
       ORYOS
       OUPAU
        PSPOT
        PHUET
         SURH
```

5.

0 1 2 3 4 5 6 7 8 9

```
            CAR
BAA | DERIDE
      ENAI
       EBFD
       EENA
        RFOE
         BAA
         BRC
```

6.

0 1 2 3 4 5 6 7 8 9

```
            ASK
ELSE | CACKLES
       CIUCM
        SIILE
        UKSAL
         LUUSS
         LMIYL
          KSL
```

7. MAGICBOXES

0 1 2 3 4 5 6 7 8 9

```
            96
            SO
219 | 2187
GAS | GAMES
      1971
      ASXA
       1379
       AIXS
       1314
       AIAC
         65
         OB
```

8.

0 1 2 3 4 5 6 7 8 9

```
            MAR
FEN | FOLDER
      DADD
       DURE
       DOFO
        FMR
```

9.

0 1 2 3 4 5 6 7 8 9

```
            YE
LIKE | GNOME
       LIKE
       LHNYE
       LGYMY
        YOYK
```

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Bible Crosswords	BXW	1						
Bowl-A-Score Challenger	BAS	1	2					
Crosscodes	CRO	1						
Cross Sums	SUM	1	2	3	4	5	6	7
Cryptic Crosswords	CRX	1						
Cryptograms	DCG	1						
Cryptoquizzes	CPQ	1						
Figgerits	FIG	1	2					
Kriss Kross	KRK	1	2					
Laddergrams	LDG	1						
Quotation Puzzles	QPZ	1						
Solicross™	SOL	1	2					
Spellathon	SPL	1	2					
Tanglewords®	TNG	9	10	11	12	13	14	15
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NUMBER PLACE

In these puzzles, your job is to place a number into each box so that each row across, each column down, and each small 9-box square within the larger square (there are 9 of these) will contain each number 1 through 9. Remember that no number may appear more than once in any row, column, or 9-box square; this will help you solve the puzzle.

1.

	1	7	6			4	5	
6				5	8			7
5			7		2	1		9
	2	6		3	5		1	
4		9		6			3	2
	3		4		7	8		6
7				1	9		8	3
3		1	2	8		9		
	5	8	3			2	4	

2.

		9			1		8	6
6		2	3	4			1	
1	3				9	4		
9		6			5	8		3
	5	4		8	6	7		
	8		9	3			2	5
2		7	4	5		1		
4	6		8				3	7
	1			9	7	2	5	

3.

		9	3	2				7
2	7							4
		6			9	5	2	
1	5			4		9		
		2			8			5
4			9		7		1	
		4		8		2	7	
3	2			9				6
	9		6		2		5	

4.

3			7			2		8
	9			6	5		4	
7	4	6		8		1		
		9			7		3	2
2			4	3				
	3	7			6	5		
5	8	1	6	2	3	9	7	4
	7				4		2	6
			9	7				5

5.

9		7		6			3	
	2		1		8			4
1						2		7
	5	9		1		4		
		8		4	6		1	
7			9				2	6
	6	1			7	9		
8				5		3		
	7		3		1			2

6.

8		7			5			4
	6		8			7	9	
1			9	7		8		
	5			2			8	
4				3	9			7
		6	5			2		3
	8		6	9		4		
	3				1		6	8
6		4			8		1	

Solutions are on page 90

SUM LOGIC

The object here is to place the numbers surrounding each diagram into its empty boxes in such a way that the five numbers in each row, each column, and each of the two diagonals add up to the total given with each puzzle. Numbers cannot be repeated within a row, column, or diagonal. HANDICAP: Each number must be placed in one of the boxes of the row or column outside which it now appears. Note that puzzle 2 involves negative numbers.

Solutions are on page 90.

1.

	11	17	7	11	5	
12				27		13
25	19					12
4			13			20
13					10	27
27		19				10
	5	7	11	1	14	

Total: 68

2.

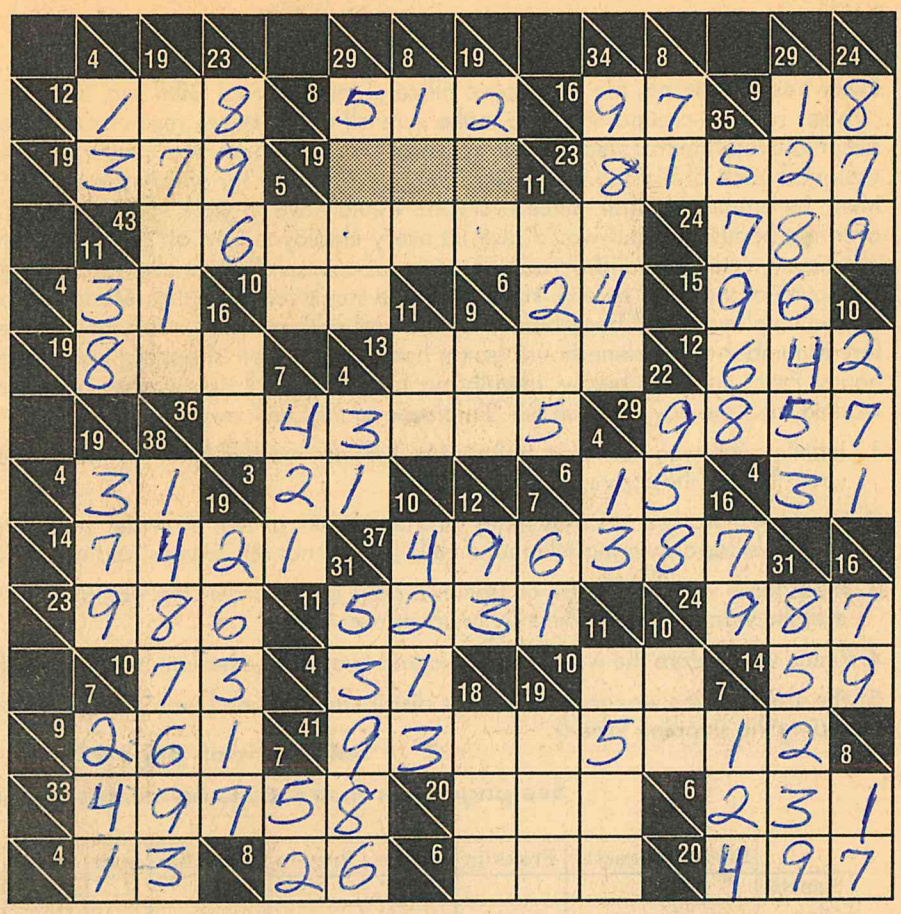
	3	-16	20	-8	14	
-8		29				7
11					41	-13
17			21			19
7	21					-6
-6				12		11
	4	3	-8	2	-7	

Total: 34

CROSS SUMS

NUMBER 5

If you need help starting a puzzle, the digit combination to go into its shaded area is on page 97.



See page 6 for solving directions.

Solutions are on page 88.

NUMBER 6

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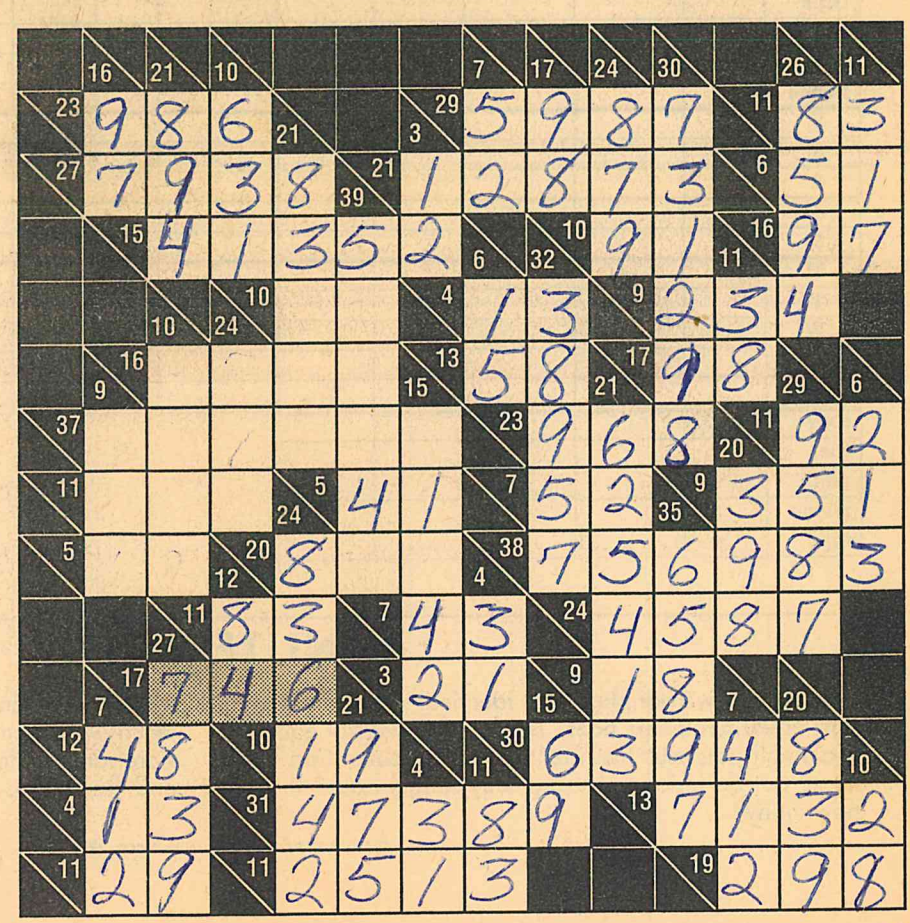
of teri.com?



LOGIC PROBLEM

4. EMPLOYEE OF THE DAY

by Varda Reisner

Every holiday season, the warehouse office of International Gifts, Inc. turns into an utter madhouse, with all of the employees rushing around trying to make sure all of the stores receive their proper orders on time. This year, in an attempt to avoid the frazzled nerves that usually run rampant, Mr. Scattergood put three special rules into effect. First, he assigned each of his five employees one specific area for which she would be responsible during the holiday rush. Next, he announced that since everyone would have to work some overtime hours, he would not only pay the usual overtime bonus pay, but would also let every employee take off (with pay) twice the number of the hours she worked overtime—after the holiday rush was over, of course! And, finally, he surprised the five women with a "Most Valuable Employee of the Day" award. He named one employee each day, Monday through Friday—and he made certain that all five employees had been named by the end of the week. As it turned out, each of the five employees worked a different number of overtime hours (some hadn't done their shopping early enough); three put in eight, four, and three hours. From the clues below, identify each woman's full name, area of responsibility, number of overtime hours she worked, and the day she won the "Employee of the Day" award.

1. Jonelle, who won two days before Ms. Preston, worked twice as many overtime hours as the woman who was responsible for the copy machine.
2. Gina, who worked twice as many overtime hours as Ms. Burnette, won before Ms. Brown; the woman who was responsible for answering telephone calls (who is not Ms. Givens) did not win on Friday.
3. These three women won on consecutive days in this order: the woman who was responsible for filing orders, Helise, and the woman who worked six hours of overtime.
4. Renee won before the woman who worked two hours overtime, who won before Ms. Franklin.
5. The woman who was responsible for distributing the mail won the day before Annette (who was not responsible for typing the shipping labels).

Solution is on page 92.

See page 5 for instructions on using standard charts.

	Brown	Burnette	Franklin	Givens	Preston	copy	file	mail	phone	type	M	T	W	TH	F	2	3	4	6	8
Annette																				
Gina																				
Helise																				
Jonelle																				
Renee																				
2																				
3																				
4																				
6																				
8																				
M																				
T																				
W																				
TH																				
F																				
copy																				
file																				
mail																				
phone																				
type																				

MINUTE MATH

1. One large flowerpot plus three identical smaller flowerpots equal ten tennis balls. The large flowerpot equals two small pots plus five identical tennis balls. Can the large pot be balanced using only tennis balls? If so, how many?
2. A window cleaner charges 15¢ per square yard. How much would he charge Mr. Shopkeeper to clean two storefront windows if one window is 15 feet by 21 feet and the other is 18 feet by 21 feet?

Answers are on page 96.

FIGURE LOGICS 3 & 4

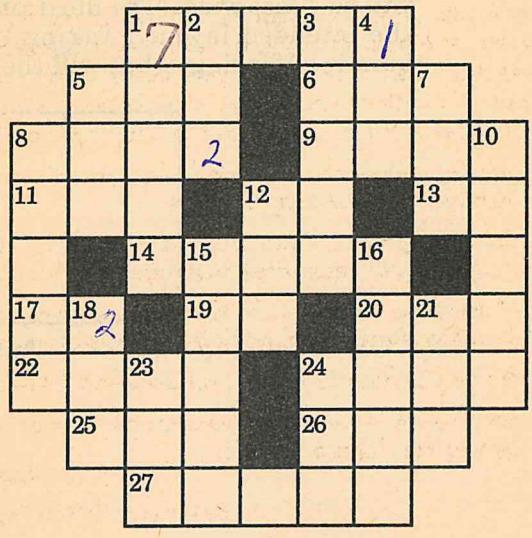
Directions for solving Figure Logics are on page 7.

ACROSS

1. 23-Down times 24-Down
5. Forty more than 21-Down
6. 13-Across times 17-Across
8. One-third of 9-Across
9. 4-Down times 19-Across
11. 5-Across plus 23-Down
12. One less than 13-Across
13. 4-Down minus 19-Across
14. 12-Across times 12-Down
17. The last two digits of 2-Down
19. The digits of 12-Across reversed
20. Nine times 19-Across
22. The square of 13-Across
24. 12-Across times 13-Across
25. Fifty more than 7-Down
26. 12-Across plus eight times 19-Across
27. 11-Across times 12-Across

DOWN

1. Four more than the sum of 4-Down plus six times 14-Across
2. Seven times 19-Across
3. 13-Across times 22-Across
4. Three times 12-Across
5. 5-Across plus 13-Across
7. 17-Across times 19-Across
8. 8-Across times 17-Across
10. Twice (13-Across times 21-Down)
12. Three times 4-Down
15. One-half of 3-Down
16. 4-Down times 18-Down
18. 12-Across plus 4-Down
21. Ten less than 2-Down
23. The sum of 4-Down plus nine times 13-Across
24. One-third of 21-Down

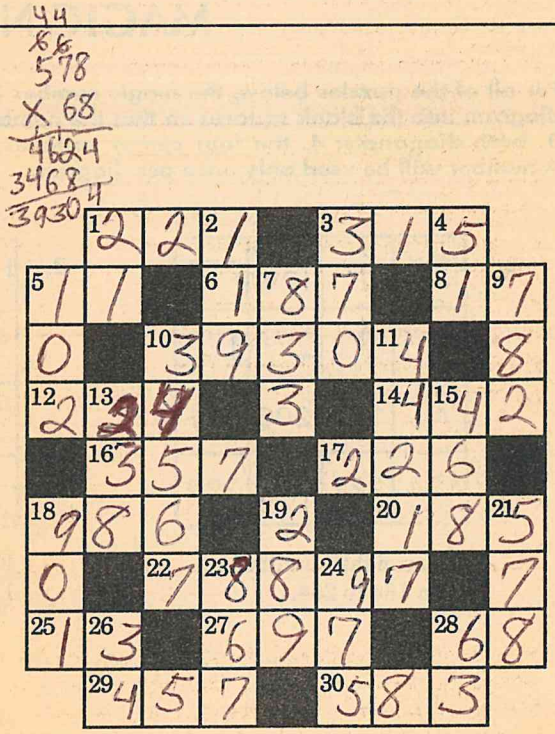


ACROSS

1. 8-Across times 25-Across
3. Five times 28-Down
5. The same digit repeated
6. 5-Across times 8-Across
8. One digit is 7 times the other
10. 28-Across times 21-Down
12. Two less than 17-Across
14. 25-Across times 26-Down
16. 8-Across times 1-Down
17. 19-Down minus 28-Down
18. 5-Across plus 24-Down
20. Two less than 6-Across
22. 1-Across times 16-Across
25. 26-Down minus 1-Down
27. 2-Down plus 21-Down
28. Twice 26-Down
29. 15-Down minus 5-Across
30. 16-Across plus 17-Across

DOWN

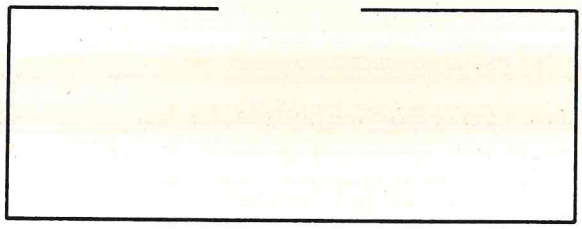
1. Consecutive digits in reverse order
2. 28-Across plus 4-Down
3. 16-Across plus 25-Across
4. Three times 8-Across
5. Twice 4-Down
7. Seven times 2-Down
9. 7-Down minus 4-Down
10. Consecutive digits
11. 4-Down times 23-Down
13. Twice 2-Down
15. Consecutive even digits
18. 23-Down plus 26-Down
19. The square of 8-Across
21. 8-Across times 26-Down
23. 8-Across times 4-Down
24. Consecutive odd digits in reverse order
26. Twice 8-Across
28. Three times 1-Down



Solutions are on page 89

FENCING LESSONS

Spring is almost in the air, and Charles is dreaming of fresh flowers, fruits, and vegetables grown in his very own backyard garden. His dining-room table is covered with seed catalogs and sales circulars from garden and home-canning equipment shops. His dreams are limited only by the size of his yard and the way fencing is packaged (he has to have a fence to keep the neighborhood dogs, cats, and kids from trampling the tulips). He can buy fencing only in 300-foot bundles, and he hasn't the yard space to justify buying more than one bundle. He thinks the garden will look best in a rectangular shape, with the long sides 24 feet longer than the short sides. One of the longer sides will also have a gate, which will be 4 feet wide. (The illustration below, which is not necessarily to scale, shows the intended layout.) Taking these proportions and using all 300 feet in one bundle of fencing, what will the dimensions of his garden be?



Answer is on page 96.

MAGIC NUMBER SQUARES

For all of the puzzles below, the magic number is 776. Try to place the numbers allowed by the rule below each diagram into the blank squares so that the numbers in the following add up to 776: 1. each row; 2. each column; 3. both diagonals; 4. the four center squares; 5. the four corner squares; 6. each quarter of the diagram. A number will be used only once per diagram.

Solutions are on page 89.

1.

158	198	166	254
238	182	214	142
246	174	206	150
134	222	190	230

Every eighth number from 134 to 254.

2.

183	203	209	181
197	193	187	199
189	201	195	191
207	179	185	205

Every odd number from 179 to 209.

3.

220	184	200	172
164	208	192	212
176	196	180	224
216	188	184	168

Every fourth number from 164 to 224.

P.D.Q.

"P.D.Q." usually stands for "Pretty Darn Quick," but in this case, it also stands for "Problems Done Quickly"! See if you can come up with at least five correct answers to the questions below in 15 minutes. Anything more than five means you P.D.Q. — passed Dell's quota! **Answers are on page 96.**

1. If 1/2 of a certain number plus 1/4 of that same number is equal to nine, what is that number?

2. Three high-school seniors bought a used car for $410. Bill contributed twice as much as Jim, and Arthur put in $200. How much did Jim spend on the car?

3. If eight times a certain number exceeds 1/2 of that number by 15, what is the number?

4. A carpenter has three 15-foot boards; he has to cut each one down into pieces three feet long. If he doesn't stack any of the boards on top of the others while he's sawing, how many cuts will he have to make to do the job?

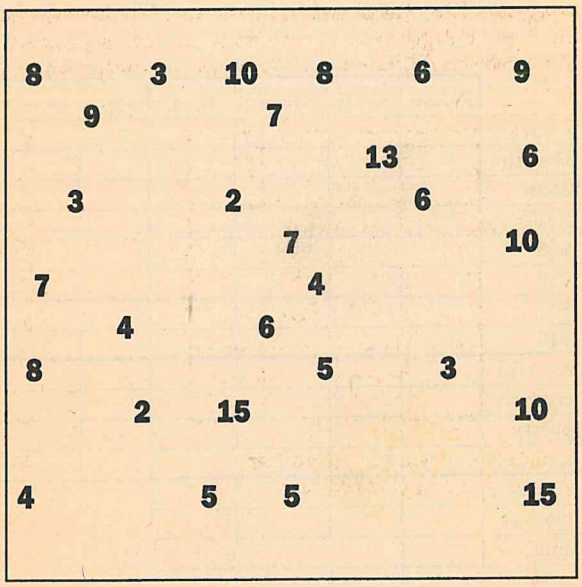
5. A number multiplied by 16 yields the same result as it would if 105 were added to it. What is the number?

6. The length of a rectangle is six feet greater than its width. Find its width if its area is 112 square feet.

7. A certain number is composed of five digits, with the sum of those five digits equaling 24. The first digit is 1/2 the third digit, and the second digit is 1/4 the fourth digit. The last digit is equal to the sum of the first three digits. What is the number?

LINES OF SIGHT

Solvers, this is where you draw the lines! All you have to do is to draw four straight lines in the square on the right so that eight sections of numbers, each adding up to 25, are formed. The solution our "line judge" came up with is on page 90.



LOGIC PROBLEM

5. SWEATSHIRT AUCTION

by Mary Marks Cezus

One of the most popular events at Cherry County Fair is the Children's Charity Contest and Auction, since it combines the opportunity for craftspeople to show off their skills as well as allowing them to contribute to a worthy cause. This year, the fair committee provided each entrant with a sweatshirt to decorate in whatever manner he or she wished. All the sweatshirts were divided into categories and then auctioned off to the crowd; the winner of each category was the one whose shirt brought in the highest bid. Robert and three of his friends completed sweatshirts for the auction. Since the four didn't want to compete against each other, they made certain that no two of their sweatshirts were decorated in the same way and that no two were entered into the same category. Using the information below, can you determine each friend's full name, method of decoration, category (one was "most creative"), and the bid each shirt received ($28, $36, $42, or $45)?

1. The woman whose sweatshirt was auctioned for $45 and the person who decorated a sweatshirt with crocheted trim (which was not used by the person whose last name is Sowers) both have donated sweatshirts to the auction for the last five years.
2. The sweatshirt entered in the "most unusual" category (which was not the category entered by the person whose last name is Yardley) and the painted sweatshirt (which was not donated by Dorothy) both were blue.
3. The person whose last name is Felton (whose sweatshirt was not in the "most colorful" category) and Joan (whose sweatshirt was not in the "prettiest" category) both used designs inspired by nature.
4. The person whose last name is Kraft was taught to bake by his grandmother.
5. Dorothy (who is not Felton) and the person who donated the appliqued sweatshirt both have taken crafts classes.
6. Yardley's sweatshirt was auctioned for less than the sweatshirt in the "prettiest" category but for more than the embroidered sweatshirt.
7. Charles's sweatshirt and the sweatshirt entered in the "most colorful" category (which was auctioned for less than the sweatshirt decorated with crocheted trim) both were extra large.

Solution is on page 92.

See page 5 for instructions on using standard charts.

	Felton	Kraft	Sowers	Yard.	appl.	crochet	emb.	paint.	color.	creat.	pretty	unusual	$28	$36	$42	$45
Charles																
Dorothy																
Joan																
Robert																
$28																
$36																
$42																
$45																
colorful																
creative																
pretty																
unusual																
appliqué																
crochet																
emb.																
painted																

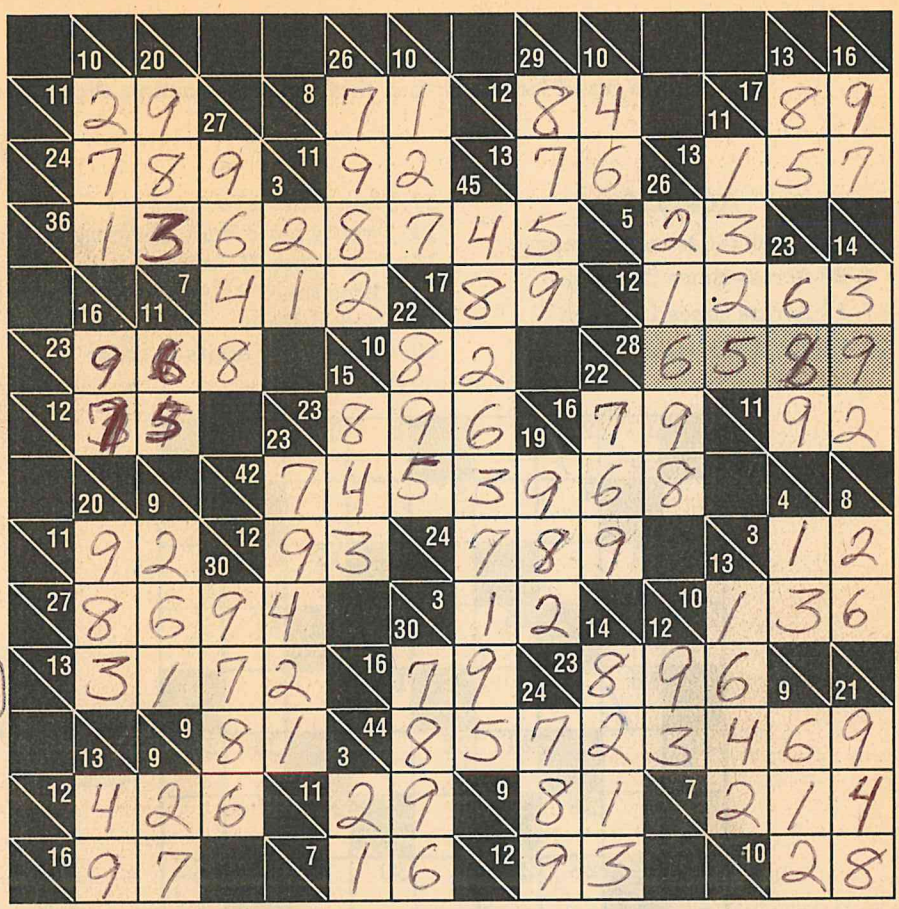
CROSS SUMS

NUMBER 7

If you need help starting a puzzle, the digit combination to go into its shaded area is on page 97.

No, it's not Playgirl! It's...

(Didn't Britney Spears do a song called 'Sum Times?')



See page 6 for solving directions.

Solutions are on page 88.

NUMBER 8

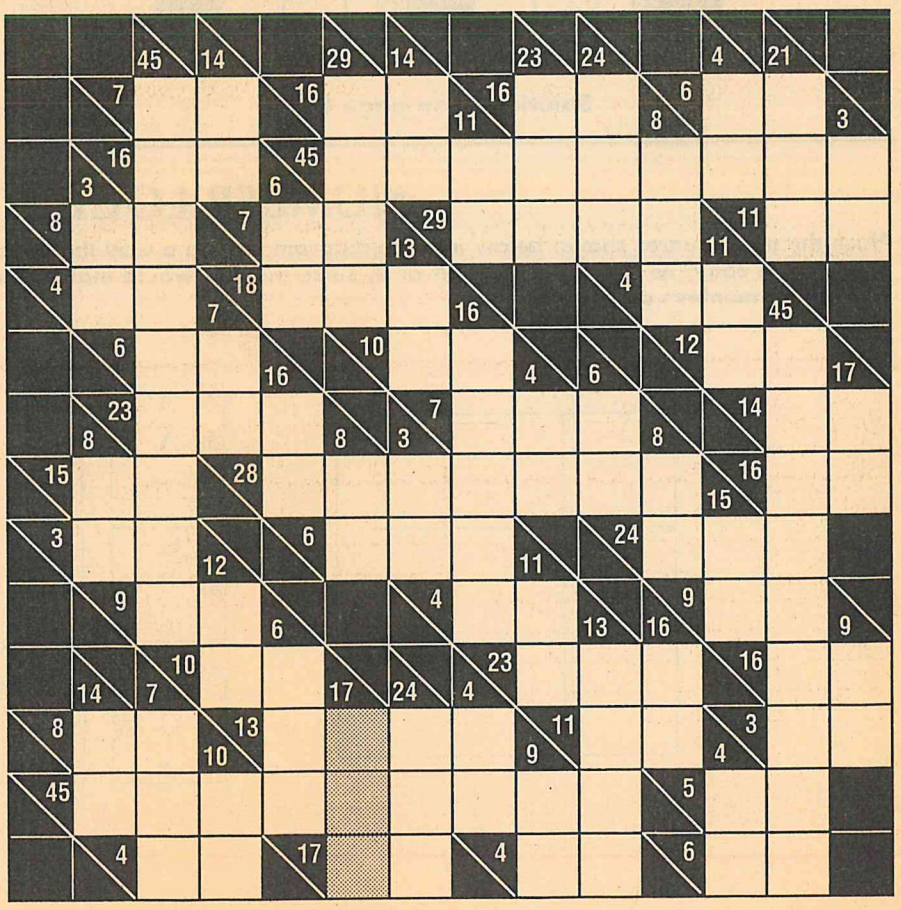


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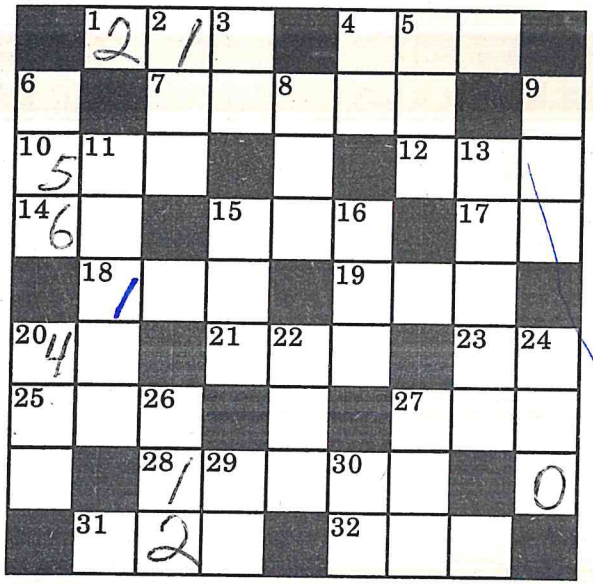
FIGURE LOGIC 5

Directions for solving Figure Logics are on page 7.
If you need help starting this puzzle, starting digits are given on page 98.

ACROSS

1. Digits of 26-Down rearranged
4. 20-Across times 23-Across
7. 14-Across times 15-Down
10. Digits of 27-Down reversed
12. Nine times 17-Across
14. Twenty more than 20-Across
15. Four times 31-Across
17. Three times 23-Across
18. Twice 4-Down
19. Consecutive digits in order
20. Consecutive digits in order
21. 14-Across plus 20-Down
23. One of its digits is three times the other
25. 16-Down plus 20-Down
27. Twice 26-Down
28. 7-Across minus 11-Down
31. 14-Across plus 2-Down
32. 4-Down plus 9-Down



DOWN

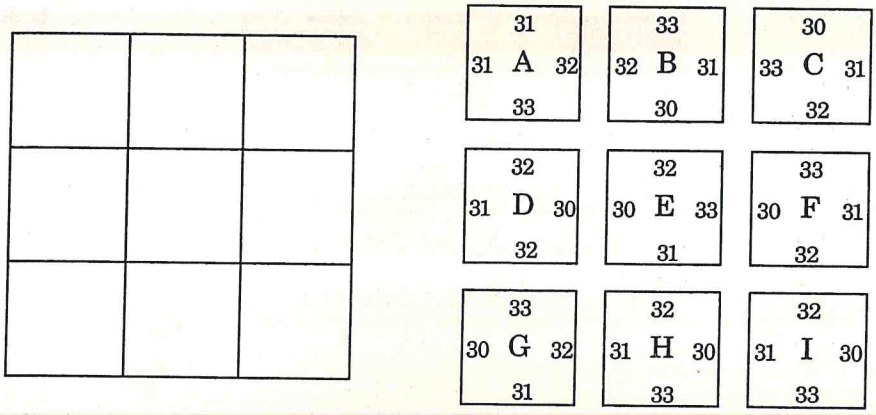
2. Twice 30-Down
3. Last two digits of 19-Across
4. 17-Across plus 23-Across
5. 3-Down plus 9-Down
6. 23-Across times 4-Down
8. Twice 20-Down
9. Nine times 29-Down
11. 4-Down times 6-Down
13. Consecutive digits in some order
15. 14-Across times 23-Across
16. 12-Across plus 30-Down
20. 4-Down plus twice 31-Across
22. 17-Across times 23-Across
24. Ten times 3-Down
26. Twice 2-Down
27. Seven times 29-Down
29. 23-Across plus 30-Down
30. Twice 17-Across

Solution is on page 89

NUMBER LOGIC

Place the nine squares shown below into the diagram in such a way that the numbers on adjacent sides match. For example, A could be directly to the left of B, since the 32s would match; however, A cannot be directly below B, since those numbers do not match.

Solution is on page 90.



WORD ARITHMETIC

for Stink!

Directions for solving Word Arithmetic are on page 14.

Solutions are on page 97.

10.

```
BASINCOVER
0 1 2 3 4 5 6 7 8 9
        1 9 8 1
          A R E A
519 | 1 0 2 8 4 5 8
CAR | A B S E N C E
      5 1 9
      C A R
      5 0 9 4
      C B R N
      4 6 7 1
      N O V A
        4 2 3 5
        N S I C
        4 1 5 2
        N A C S
          8 3 8
          E I E
          5 1 9
          C A R
          3 1 8
          I A R
```

11.

```
0 1 2 3 4 5 6 7 8 9
          R O D
ATOP | A T T R A C T
       R P E W
         W T O C
       O L D T
         D E C T
         D C D E
           P O L
```

12.

```
DREAMSITUP
0 1 2 3 4 5 6 7 8 9
        1 2 3 4
          R E A M
52205 | 6 4 4 3 7 8 1 2
SEEDS | I M M A T U R E
        5 2 2 0 5
        S E E D S
        1 2 2 3 2 8
        R E E A E U
        1 0 4 4 1 0
        R D M M R D
          1 2 9 1 8 1
          R T P R U R
          1 5 6 6 1 5
          R S I I R S
            2 2 5 6 6 2
            E E S I I E
            2 0 8 8 2 0
            E D U U E D
              1 6 8 4 2
              R I U M E
```

13.

```
0 1 2 3 4 5 6 7 8 9
          S P A
SOAP | A P P E A S E
       A A E S T
         O M C S
       I T P E
         E P N E
       S O A P
           E O P
```

14.

```
STORYGUIDE
0 1 2 3 4 5 6 7 8 9
        1 6 5
          T U G
5371 | 8 9 1 2 6 3
GRIT | D E T O U R
       5 3 7 1
       G R I T
       3 5 4 1 6
       R G Y T U
       3 2 2 2 6
       R O O O U
         3 1 9 0 3
         R T E S R
         2 6 8 5 5
         O U D G G
           5 0 4 8
           G S Y D
```

15.

```
0 1 2 3 4 5 6 7 8 9
        P E W S
HEW | W I S H E S
      H E W
        E P P H
      P I F O
          Y F W E
      Y F Y P
            C P S
```

16.

```
0 1 2 3 4 5 6 7 8 9
          C O P
EPIC | A C C E P T
       E P I C
         E N C P T
       E E S R P
           C E C I
```

17.

```
0 1 2 3 4 5 6 7 8 9
          M A P
PRAM | T U R B A N
       P R A M
         E P N M A
       E B I A A
           E U P U N
       B I E U P
             E B U E
```

18.

```
0 1 2 3 4 5 6 7 8 9
          R E
TYPE | A P P E A R
       O S A S
         T R I T R
       T P O S A
           R P N A
```

We're not playing Password, eh?

LOGIC PROBLEM

6. ANIMATED ANIMALS

by SUSAN ZIVICH

Every one of the students in Professor Annie May Shun's animation class signed up to go to the International Cartoon Festival at the Main Square Theater. The six films, each which featured a different animal, were from six different countries, including Germany. From the following clues, can you determine the type of animal in each cartoon, the animal's name, the full name of the animator, the music used in each film (one used Beethoven), the country of origin of each film, as well as the order of presentation?

1. Chuck drew Polly, who is not the bunny.
2. Dennis is from Canada and the animator who drew Zelda is from France.
3. The movie with the penguin was shown right after Swenser's cartoon, and just before the one featuring Barney.
4. Marcie Kaplan did not draw the cat.
5. Forszt drew the cartoon featuring Clara.
6. The English movie was shown fourth and the one with the elephant last.
7. Julie, who did not use Bach, drew the mouse.
8. The cartoon with the music of Vivaldi was third and Stu's was fifth.
9. The man from Italy drew the bunny.
10. Amanda, who used Mozart, was not the animator featured last.
11. Mr. Atkinson drew the dog.
12. The cartoon with the cat used Strauss and the cartoon character named Mortimer danced to Handel.
13. The cartoon character named Gus was in the second movie.
14. Mr. Vargas is from Mexico.
15. The cartoonist named Helmer used Bach.

Solution is on page 92.
See page 5 for instructions on using standard charts.

	1	2	3	4	5	6	bun.	cat	dog	ele.	mou.	pen.	Bach	Beet.	Han.	Moz.	Str.	Viv.	Ama.	Chu.	Den.	Jul.	Mar.	Stu	Atk.	For.	Hel.	Kap.	Swe.	Var.	Can.	Eng.	Fra.	Ger.	Ita.	Mex.
Barney																																				
Clara																																				
Gus																																				
Mortimer																																				
Polly																																				
Zelda																																				
Canada																																				
England																																				
France																																				
Germany																																				
Italy																																				
Mexico																																				
Atkinson																																				
Forszt																																				
Helmer																																				
Kaplan																																				
Swenser																																				
Vargas																																				
Amanda																																				
Chuck																																				
Dennis																																				
Julie																																				
Marcie																																				
Stu																																				
Bach																																				
Beethoven																																				
Handel																																				
Mozart																																				
Strauss																																				
Vivaldi																																				
bunny																																				
cat																																				
dog																																				
elephant																																				
mouse																																				
penguin																																				

LOGIC PROBLEM

7. COUNSELORS ON TOUR

by ANNE SMITH

When five friends finished law school, they all moved to different States to practice law. Every year they meet in a different city to discuss their practices and reminisce about the old days. This year they met in Washington, D.C., for five days. Along with their professional discussions, each of the five women wanted to see the sights of the nation's capital. On each day, Monday through Friday, the five went together to visit a different attraction. From the following clues, can you determine each woman's full name (one first name is Kathy, one last name is Luce), the State in which she practices law, her favorite attraction in Washington, D.C, and the day on which the five women went together to visit that attraction?

1. The five women are: Susan, Ms. Hildebrand, the woman from Illinois, the one who liked the White House best, and the one whose favorite attraction was visited on Wednesday.
2. The following were visited consecutively: Marcia's favorite, the favorite of the lawyer from Tennessee, and the Vietnam War Memorial.
3. Ms. Piper's favorite was visited exactly three days before the U.S. Capitol; the favorite of the woman from Pennsylvania was visited at least three days later than the favorite of Ms. Rogers.
4. Carol's favorite attraction was visited after Ms. Thompson's favorite, but not the day after.
5. The Washington Monument, which was not visited first, was toured before both Daphne's favorite and the favorite of the lawyer from California.
6. The favorite of Ms. Rogers was visited the day before the favorite of the one from South Carolina and the day after the National Archives.

Solution is on page 92.

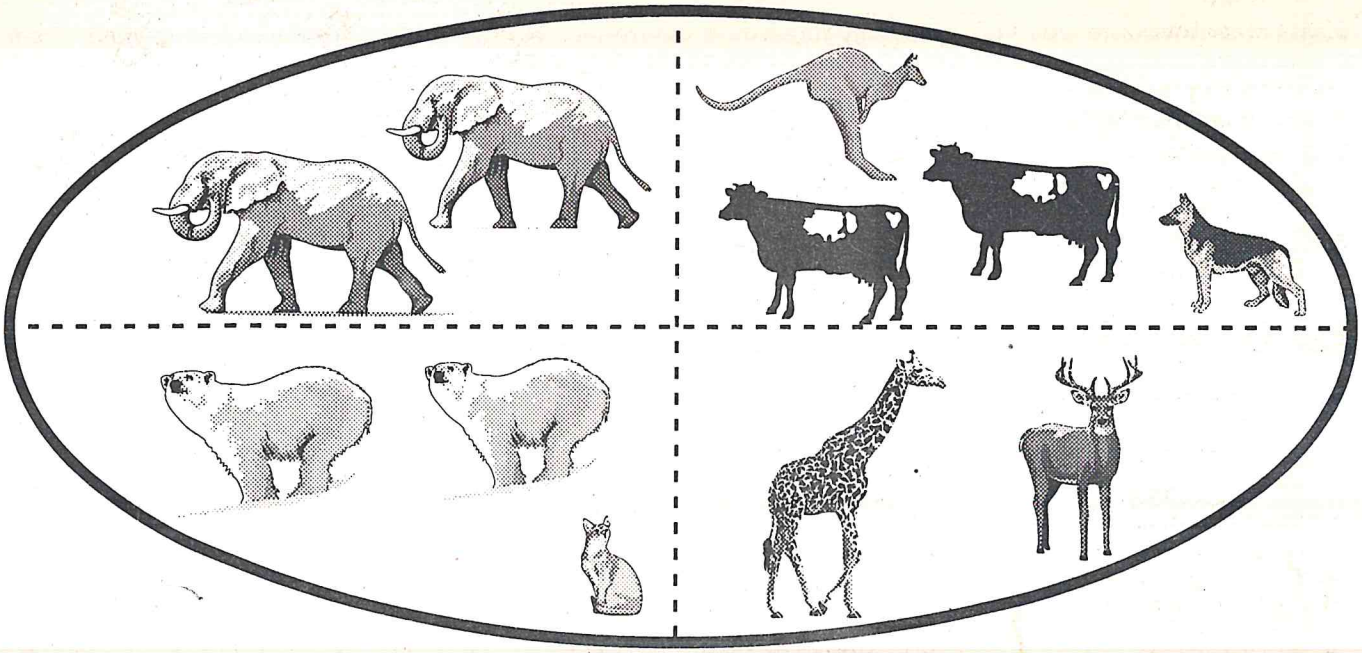
See page 5 for instructions on using standard charts.

	Hilde.	Luce	Piper	Rogers	Thomp.	Calif.	Ill.	Penn.	S. C.	Tenn.	Nat'l. Arch.	U.S. Cap.	Viet. Mem.	Wash. Monu.	White House	M	T	W	Th	F
Carol																				
Daphne																				
Kathy																				
Marcia																				
Susan																				
Monday																				
Tuesday																				
Wednesday																				
Thursday																				
Friday																				
National Archives																				
U.S. Capital																				
Vietnam Memorial																				
Washington Monument																				
White House																				
California																				
Illinois																				
Penn.																				
S. C.																				
Tennessee																				

KEEP IT BALANCED

In order to keep the Ark stable, Noah placed the animals very carefully, balancing the weight from side to side and front to back, so that all four quarters of the Ark contained the same weight. On one floor of the Ark, he placed two elephants, two bears, two dogs, two cows, two monkeys, two cats, two kangaroos, two deer, and two giraffes. Whenever possible, Noah kept both of each type of animal together. Shown below is a partly loaded ark. Can you complete the loading of the animals and keep it all balanced?

If:	Where do these animals belong?
1 elephant = 2 cows	1 deer
1 deer = 2 dogs	1 giraffe
1 bear = 1 giraffe	1 kangaroo
1 cat = 1 monkey	1 dog
1 kangaroo = 1 cow	1 cat
1 bear = 2 cows	2 monkeys
1 dog = 2 cats	



Solution is on page 96.

LOST SUMS

In each case, what you see below was once an addition problem that contained each of the digits 1 – 9. Now, however, all but one of its digits have been lost, and it is up to you to recreate the original problem by filling in the dashes. To aid your reconstruction, the sum of the digits in each line is given in parentheses next to that line. Remember, each digit can be used only once, so cross off each number once you've used it.

Answers are on page 96.

A.

```
  _ _ _ _ (21)
    _ _ _ (18)
+     _ 2 (6)
  ---------
  5 8 7 7
```

1 2 3 4 5 6 7 8 9

B.

```
  _ _ _ _ (20)
    _ _ _ (12)
+     _ 8 (13)
  ---------
  5 2 9 2
```

1 2 3 4 5 6 7 8 9

FIGURE LOGICS 6 & 7

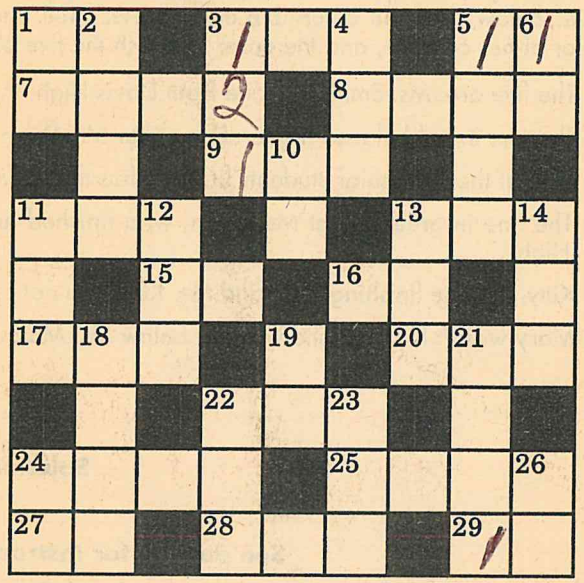
Directions for solving Figure Logics are on page 7.
If you need help starting these puzzles, starting digits are given on page 98.

ACROSS

1. Digits of 6-Down reversed
3. Twice 27-Across
5. One-sixth of 26-Down
7. 20-Across plus 12-Down
8. 1-Across times 5-Across
9. 11-Across plus 14-Down
11. 28-Across plus 26-Down
13. 5-Across times 24-Down
15. 10-Down plus 19-Down
16. Two more than 24-Down
17. 28-Across minus 27-Across
20. 27-Across plus 24-Down
22. Three times 27-Across
24. Twice 2-Down
25. 8-Across plus 26-Down
27. 5-Across plus 6-Down
28. Three times 20-Across
29. One less than 6-Down

DOWN

1. Two less than 1-Across
2. Three times 5-Down
3. Square of 5-Across
4. Four times 3-Across
5. 5-Across times 26-Down
6. Three times 5-Across
10. 4-Down divided by 5-Across
11. 5-Across plus 11-Across
12. 5-Across plus 9-Across
13. 5-Across times 16-Across
14. 5-Across times 6-Down
18. Digits of 8-Across rearranged
19. 1-Across minus 26-Down
21. 5-Across times 1-Down
22. 3-Across plus 6-Down
23. 5-Across times 15-Across
24. 5-Across plus 27-Across
26. Twice 6-Down

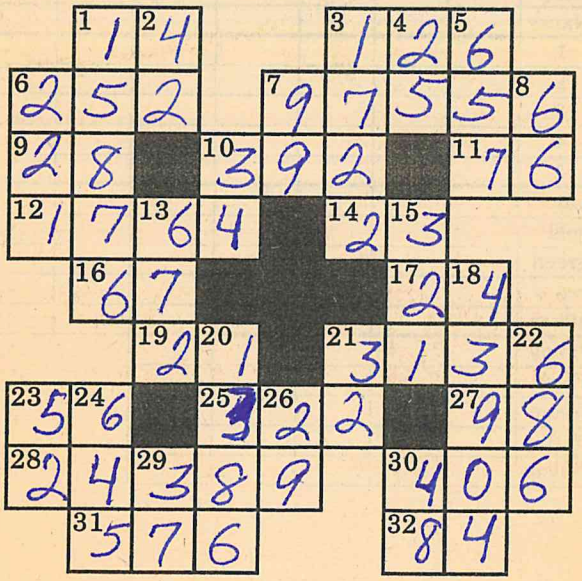


ACROSS

1. One-seventh of 27-Across
3. 9-Across plus 27-Across
6. Three times 32-Across
7. Four times 28-Across
9. Twice 1-Across
10. 1-Across times 9-Across
11. 7-Down minus 14-Across
12. Square of 2-Down
14. One less than 17-Across
16. Digits of 11-Across reversed
17. Half of 30-Down
19. Half of 2-Down
21. Square of 23-Across
23. Twice 9-Across
25. 1-Across times 14-Across
27. Consecutive digits in some order
28. 26-Down times the square of 26-Down
30. 1-Across times 26-Down
31. Consecutive digits in some order
32. Twice 2-Down

DOWN

1. Square of 3-Across
2. 1-Across plus 9-Across
3. 12-Across minus 2-Down
4. One more than 17-Across
5. Consecutive digits in some order
6. One hundred less than 15-Down
7. One more than 27-Across
8. 1-Across plus 23-Down
10. Two more than 21-Down
13. 1-Across times 30-Down
15. Consecutive digits in either ascending or descending order
18. 1-Across times 21-Across
20. 1-Across times 7-Down
21. Digits of 14-Across reversed
22. Seven times 27-Across
23. 14-Across plus 26-Down
24. Consecutive digits in some order
26. One more than 9-Across
29. 1-Across plus 14-Across
30. Digits of 32-Across reversed



Solutions are on page 89

LOGIC PROBLEM

8. THE BATON TWIRLERS

by W.R. Pinkston

Twirling a baton is not an easy sport to learn; a beginner earns bruises from the top of her head right down to her toes! The years of practice and poultices paid off, though, for the five winners of the "Top Twirlers" contest. From the clues below, can you determine each twirler's full name (one first name is Betty), school (one is from Taft High), the color of her costume, and the order in which the five placed?

1. The five are: Ms. Smith, the one from Davis High, the girl in blue, Nancy, and the one in silver.
2. The one in gold placed higher than either Ms. Dunn or the one in silver, who is not from Ford High.
3. One of the two senior students finished fourth; Ms. Moore, Jan, and the girl from Mann High are not seniors.
4. The one in green is not Ms. Dunn, who finished just below the one in red, but just ahead of the one from Wilson High.
5. Kitty, the one finishing fifth, and Ms. Kelly are not seniors. The one in silver is a senior.
6. Mary wasn't fifth, but she was just below Ms. Moore, who was one place below Ms. Lamb.

Solution is on page 93.

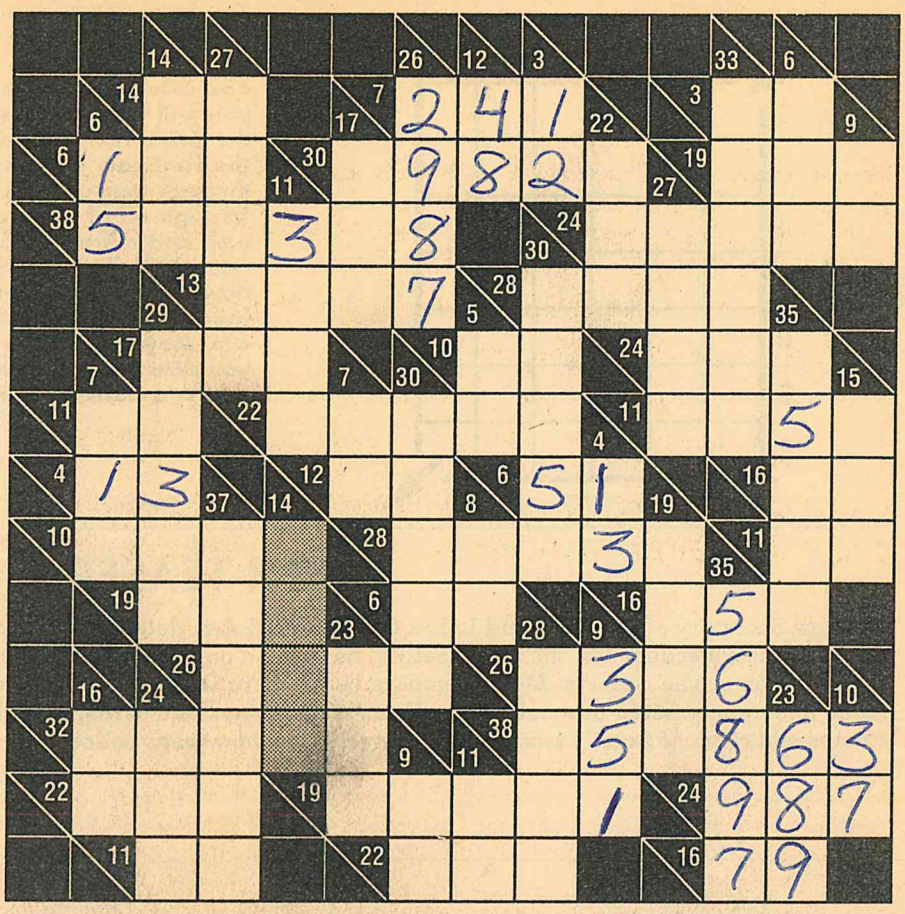
See page 5 for instructions on using standard charts.

	Dunn	Kelly	Lamb	Moore	Smith	Davis	Ford	Mann	Taft	Wilson	blue	gold	green	red	silver	1	2	3	4	5
Betty																				
Jan																				
Kitty																				
Mary																				
Nancy																				
1																				
2																				
3																				
4																				
5																				
blue																				
gold																				
green																				
red																				
silver																				
Davis																				
Ford																				
Mann																				
Taft																				
Wilson																				

CROSS SUMS

NUMBER 9

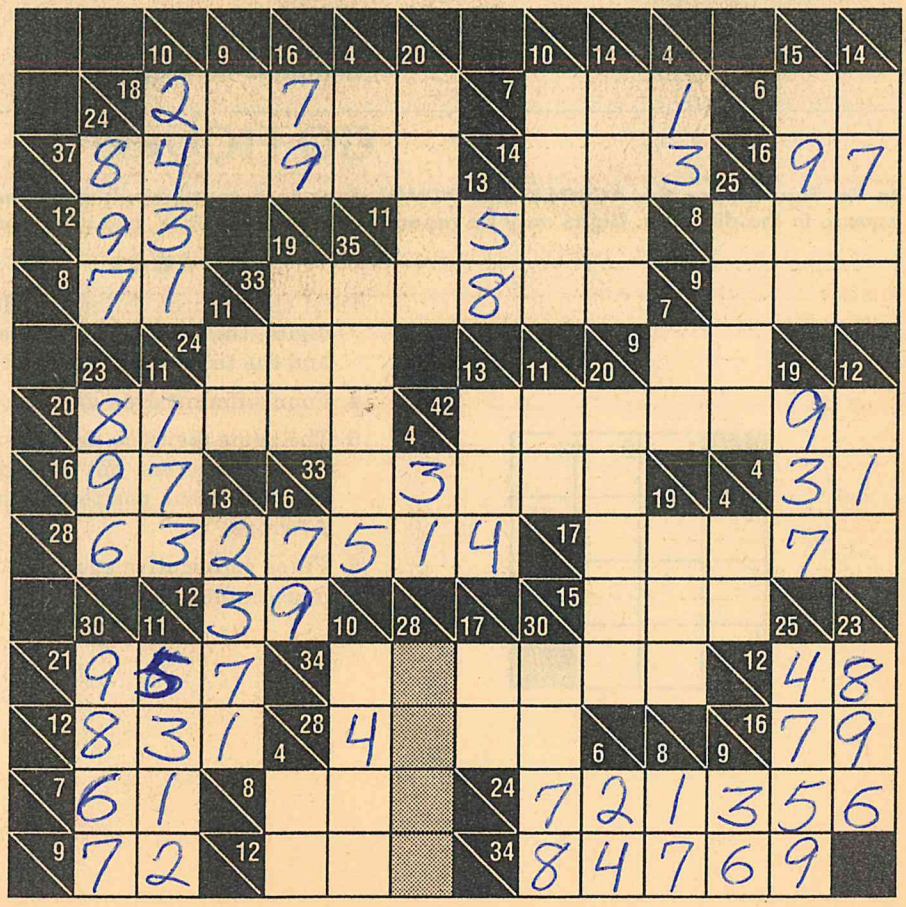
If you need help starting a puzzle, the digit combination to go into its shaded area is on page 97.



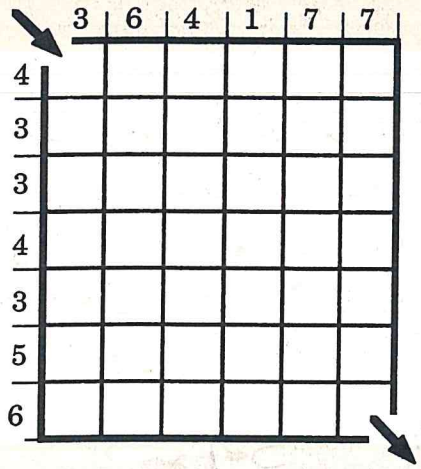
See page 6 for solving directions.

Solutions are on page 88.

NUMBER 10



MATH MAZE 1



You have to use some deductive reasoning to make your way from start to finish in a Math Maze. The maze is divided into squares; the number at the beginning of each row and column tells you exactly how many of those squares you will have to cross through in order to correctly reach the finish. For example, the number 4 is at the beginning of the first row across; this means you will have to cross through four of the boxes in that row. You need not cross through all of them at once; you may leave a row or column and return to it. For example, you might cross the first box of the first row, then turn downward. You would then have to return to the first row later so that you use exactly four boxes before you finish the maze. No diagonal moves are allowed. Solving hint: To begin, blacken any box that you determine will not be used, and place a dot in any box that you know must be used. **Solution is on page 90.**

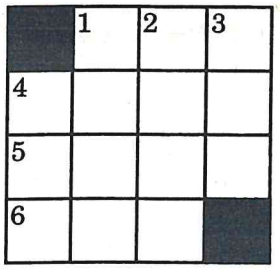
MATH TEASER

The new Secretary of the Highland Lakes Collectors' Club is determined to keep the club records just as orderly as he keeps his collections. At the last meeting, he handed out cards to all of the members, and asked each to list all the items he or she collects. Most members listed more than one item; twenty listed stamps, twenty-five listed coins, and twenty listed baseball cards. Five listed stamps and cards, eight listed cards and coins, and nine listed stamps and coins. If exactly two listed all three items, how many collect only coins? Only stamps? Only cards?

Solution is on page 96.

GO FIGURE!

In Go Figure!, use the ACROSS and DOWN clues to determine which of the digits 1 through 9 belongs in each square in the diagram. Digits may be repeated within a number, and no zeros are used. **Solution is on page 90.**



ACROSS

1. Of these three different odd digits, the first is the largest and the third is the smallest
4. Four different even digits
5. The same digits as in the answer to 4-Across, but no digit is in the same position as in 4-Across
6. Three consecutive even digits in ascending order

DOWN

1. When the first digit is multiplied by the second, the result is a 2-digit number whose first digit is the same as the fourth digit of the answer to this clue and whose second digit is the third digit of the answer to this clue
2. The second digit is the same as the rightmost digit of the sum of the third and fourth digits
3. Three different digits in which the third digit is the product of the first and second
4. The third digit is the rightmost digit of the product of the first and second digits

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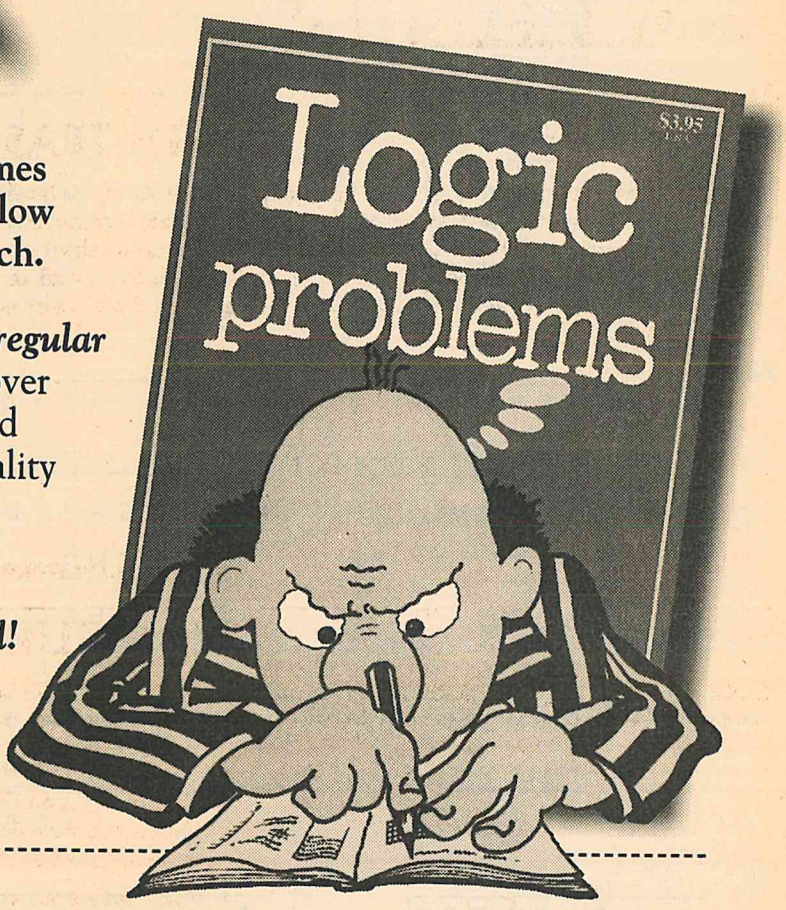

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WORD ARITHMETIC

Directions for solving Word Arithmetic are on page 14. **Solutions are on page 97.**

19. IDLESROUGH

```
0 1 2 3 4 5 6 7 8 9
            5 3 1 6
            R E D O
1643 | 8 7 3 4 4 3 1
DOSE | G U E S S E D
       8 2 1 5
       G L D R
         5 1 9 4
         R D H S
         4 9 2 9
         S H L H
           2 6 5 3
           L O R E
           1 6 4 3
           D O S E
           1 0 1 0 1
           D I D I D
             9 8 5 8
             H G R G
               2 4 3
               L S E
```

20. FLAMINGHOT

```
0 1 2 3 4 5 6 7 8 9
            3 8 8 5
            M O O N
541 | 2 1 0 2 1 0 2
NIL | A L F A L F A
      1 6 2 3
      L G A M
        4 7 9 1
        I H T L
        4 3 2 8
        I M A O
          4 6 3 0
          I G M F
          4 3 2 8
          I M A O
            3 0 2 2
            M F A A
            2 7 0 5
            A H F N
              3 1 7
              M L H
```

21. WEARINGOUT

```
0 1 2 3 4 5 6 7 8 9
            9 1 2
            T E A
751 | 6 8 4 2 2 3
ONE | G U I T A R
      6 7 5 9
      G O N T
        9 0 2
        T W A
        8 5 1
        O N E
        1 5 1 3
        E N E R
        1 5 0 2
        E N W A
          1 1
          E E
```

22.

```
0 1 2 3 4 5 6 7 8 9
            L O T
OMIT | C U S T O M
       O M I T
       U S U G O
       U P C I G
         U M M O M
         U L T S P
           L C O I
```

23.

```
0 1 2 3 4 5 6 7 8 9
            N A Y
HAS | S C A R E D
      S E H R
        S E F E
        E N N D
          H E H D
          H R A N
            D R
```

24.

```
0 1 2 3 4 5 6 7 8 9
            A N Y
AYE | D R E A M Y
      E A G O
        W W O M
        W W Y G
          A E Y
          A Y E
            Y O
```

25. THERMOSJUG

```
0 1 2 3 4 5 6 7 8 9
            1 2 4
            H E M
4861 | 6 0 3 2 2 0
MUSH | S T R E E T
       4 8 6 1
       M U S H
       1 1 7 1 3
       H H J H E
         9 7 3 3
         G J E E
         1 9 9 0 0
         H G G T T
         1 9 4 4 4
         H G M M M
           4 5 6
           M O S
```

26.

```
0 1 2 3 4 5 6 7 8 9
            B A N
HILL | T A N G L E
       H I L L
         E U N L E
         E U B B A
           E B E
```

27.

```
0 1 2 3 4 5 6 7 8 9
            I T
TIME | T O W E R S
       T W I T O
         R O W C S
         R R M U O
           M T M
```

FIGURE LOGIC 8

Directions for solving Figure Logics are on page 7.
If you need help starting this puzzle, a starting digit is given on page 98.

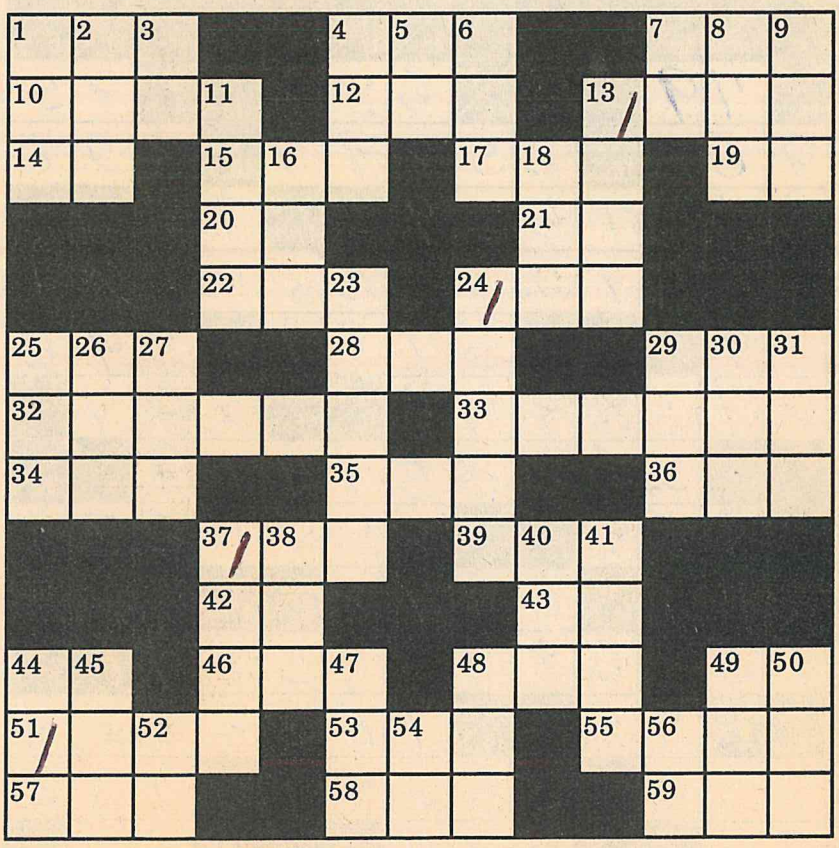
ACROSS

1. 18-Down minus 40-Down
4. 24-Across minus 14-Across
7. 12-Across plus 40-Down
10. 9-Down times 5-Down
12. Digits of 18-Down reversed
13. 13-Down plus 24-Across
14. 6-Down divided by 3-Down
15. 2-Down plus 16-Down
17. 28-Across minus 19-Across
19. One more than 3-Down
20. 42-Across minus 49-Across
21. 14-Across plus 52-Down
22. 55-Across divided by 49-Across
24. 3-Down times 19-Across
25. 58-Across plus 15-Across
28. 36-Across minus 40-Down
29. Square of 19-Across
32. 8-Down times 7-Across
33. Square of 18-Down
34. Twice 39-Across
35. 21-Across times 3-Down
36. 56-Down times 42-Across
37. 48-Across minus 50-Down
39. Two less than 22-Across
42. 3-Down plus 19-Across
43. 20-Across plus 56-Down
44. First two digits of 25-Down
46. 22-Across plus 9-Down
48. 21-Across plus 29-Across
49. One-third of 14-Across
51. 7-Across plus 9-Down
53. 22-Across plus 4-Down
55. 11-Down plus 1-Across
57. Three-fifths of 18-Down
58. 5-Down times 19-Across
59. Four times 45-Down

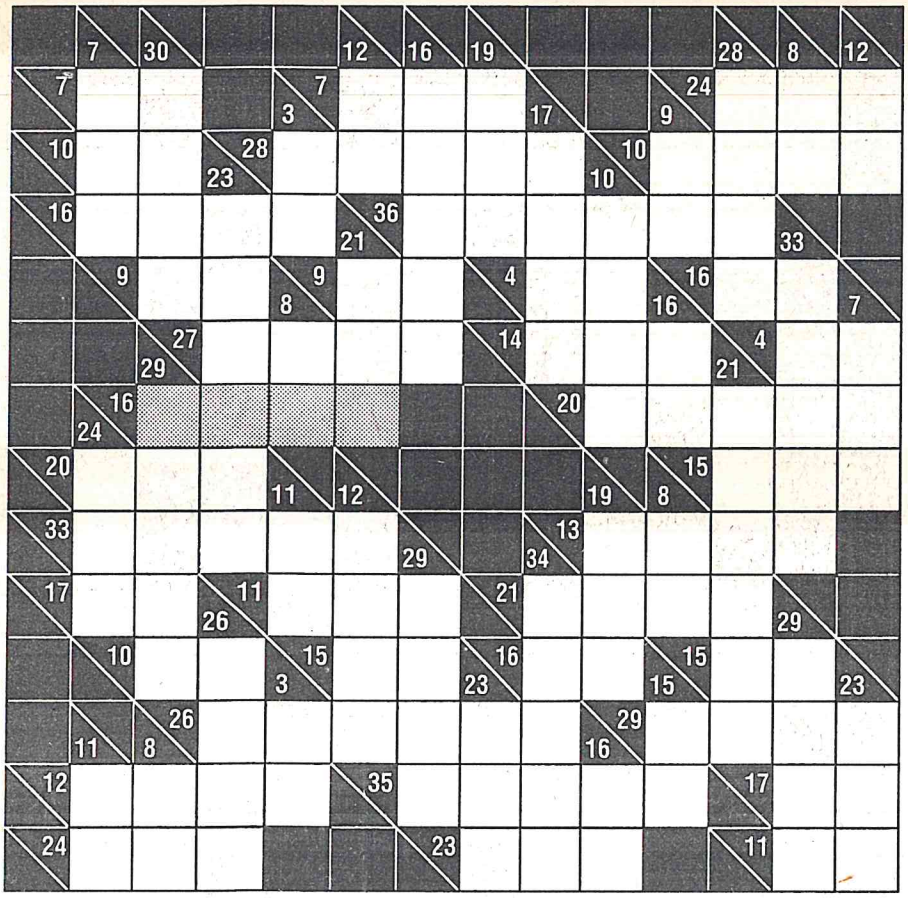
DOWN

1. 36-Across plus 14-Across
2. Six more than 53-Across
3. One-fourth of 43-Across
4. 20-Across times 49-Across
5. 7-Down minus 43-Across
6. 18-Down minus 12-Across
7. 24-Across minus 44-Across
8. One-third of 7-Across
9. Palindromic number
11. 20-Across times 45-Down
13. Twice 17-Across
16. 45-Down plus 14-Across
18. 7-Down times 19-Across
23. 1-Across times 52-Down
24. 49-Across times 13-Across
25. 28-Across plus 45-Down
26. 28-Across minus 56-Down
27. 25-Across minus 9-Down
29. 24-Across plus 3-Down
30. Last three digits of 33-Across
31. First three digits of 33-Across
37. 1-Down plus 2-Down
38. 16-Down plus 3-Down
40. Square of 3-Down
41. 19-Across times 40-Down
44. 26-Down plus 49-Down
45. Three-fourths of 40-Down
47. 34-Across plus 39-Across
48. 17-Across minus 34-Across
49. 50-Down plus 49-Across
50. 3-Down times 49-Across
52. 56-Down plus 49-Across
54. 21-Across minus 19-Across
56. One more than 14-Across

Solution is on page 90



CROSS SUMS

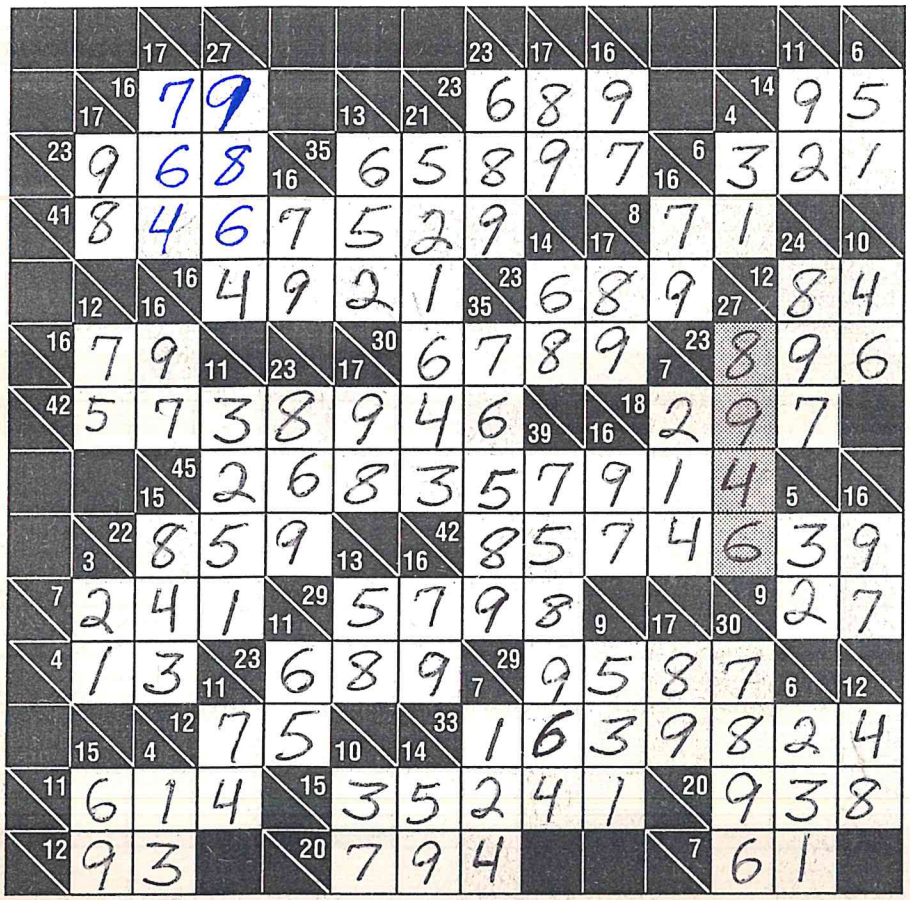


NUMBER 11

If you need help starting a puzzle, the digit combination to go into its shaded area is on page 97.

See page 6 for solving directions.

Solutions are on page 88.



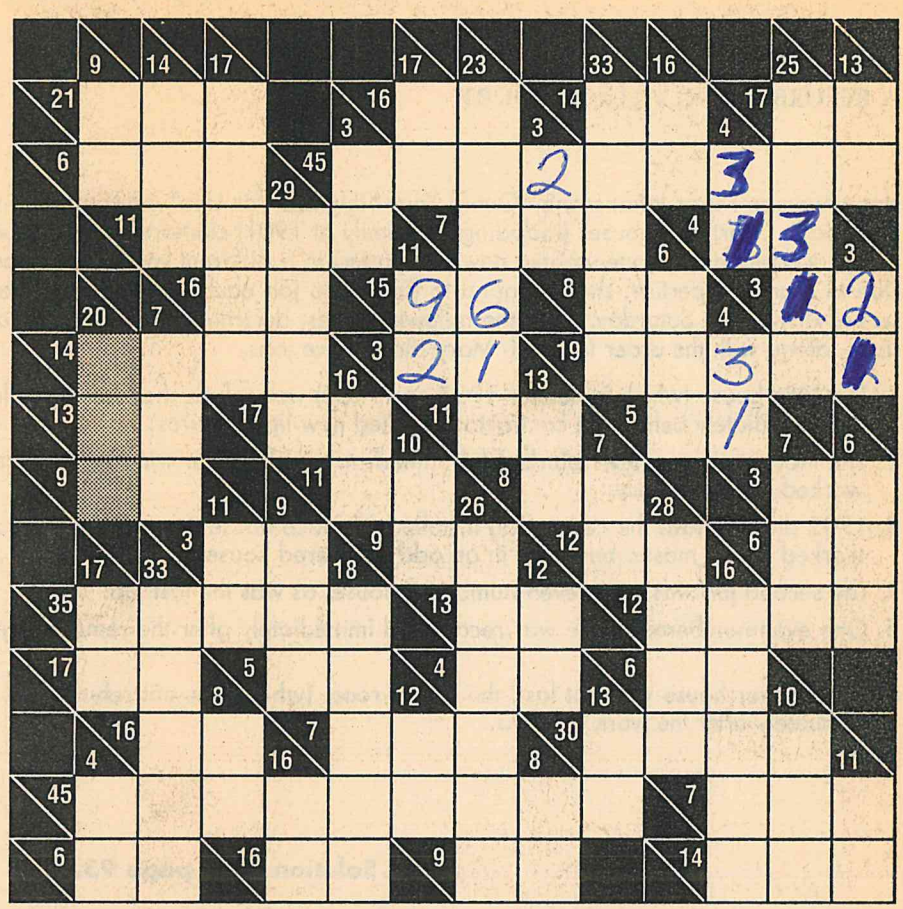
NUMBER 12

Add more to your total puzzle enjoyment with ***Collector's Series Cross Sums.*** *You'll find over 100 of your favorites. To order, see page 15.*

CROSS SUMS

NUMBER 13

If you need help starting a puzzle, the digit combination to go into its shaded area is on page 97.

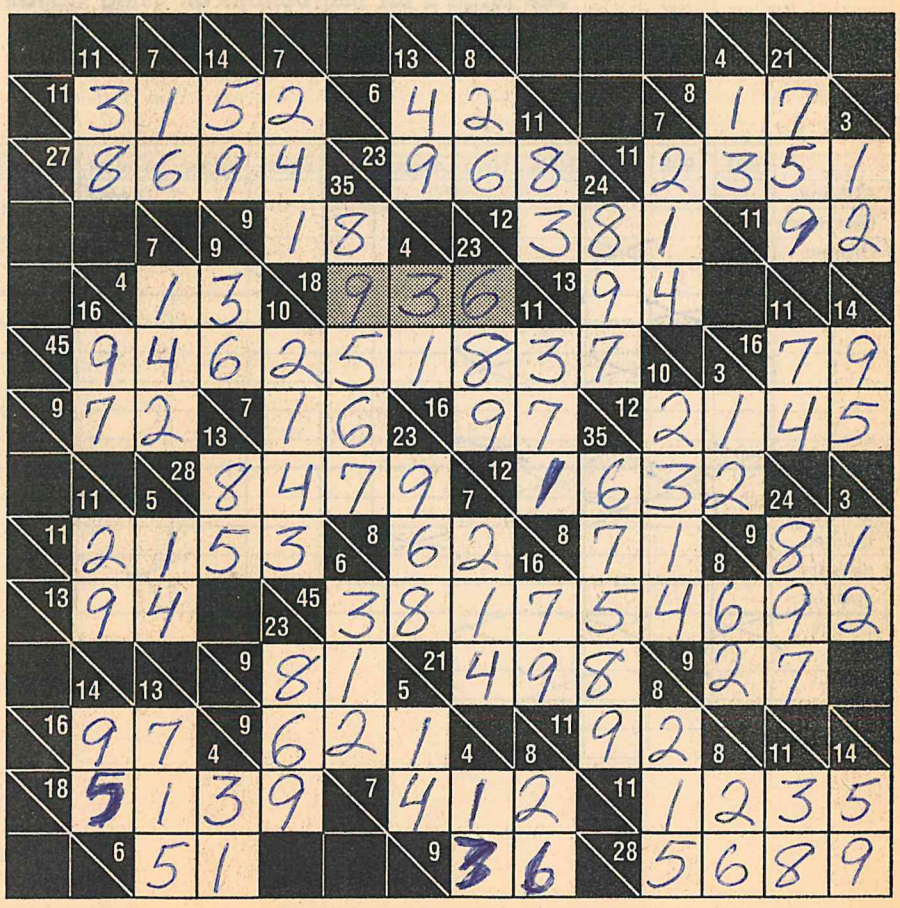


See page 6 for solving directions.

Solutions are on page 88.

NUMBER 14

You and your donuts!



LOGIC PROBLEM

9. REFURBISHING VILLAGE COURT

by Varda Reisner

Handywoman Mary Johansson's "Outdo Your Neighbor for Less" ad campaign was a rousing success. Five families at the Village Court townhouses (including the family at 1901) clamored to have some home-remodeling done. Each family had a different job (one wanted new wallpaper) in a different room of the house (one job was in the powder room). Due to Mary's expertise, she managed to finish one job each day from Monday through Friday, and took a well-deserved day off on Saturday. From the following clues, determine each family's townhouse number, job done, and room done, along with the order in which Mary did the five jobs.

1. The Little house (which is neither 1904 nor 1905) was refurbished before at least one other job; 1904 was completed immediately before the contractor installed new light fixtures.
2. The Abrams house was refurbished immediately before the window treatment was done, but after the contractor worked on the nursery.
3. 1902 did not have the ceiling-fan installed; the Rice house was not the last job, but it was done after the contractor worked on the master bedroom in an odd-numbered house.
4. The second job was at an even-numbered house, as was the last job.
5. One even-numbered house was recarpeted immediately after the remodeling of a kitchen, which was not the fourth job.
6. The Cooper house was not last; the family room (which was not refurbished at the Chambers house) was done immediately after the work at 1903.

Solution is on page 93.

See page 5 for instructions on using standard charts.

	1901	1902	1903	1904	1905	carpet	fan	lights	paper	window	bedr.	family	kitch.	nurs.	powd.	1	2	3	4	5
Abrams										X				X						
Chambers												X								
Cooper			X																	X
Little				X	X			X												X
Rice		X																		X
1																				
2	X		X		X															
3																				
4													X							
5	X		X		X															
bedroom		X		X																
family			X																	
kitchen						X														
nursery										X										
powder																				
carpet	X		X		X															
fan		X																		
lights				X																
paper																				
window																				

LOGIC PROBLEM

10. THE CRITIC **by Randall L. Whipkey**

Last week, Summerset Sentinel theater critic Shakespeare O'Neill reviewed new productions at five local theaters, including one at the Uptown. O'Neill enjoyed a different show each evening Wednesday through Saturday, as well as a Saturday matinee performance, and he awarded Summerset Sentinel Stars (☆) to each production. From the information below, can you identify the play at each theater, the performance O'Neill attended, and the rating he gave the show?

1. The critic gave "Ms. Bangkok" ☆☆.
2. O'Neill saw the two productions to which he gave ☆☆☆ in succession.
3. He was at the performance at the Thespian the day before he enjoyed "Les Joyeux."
4. Two days after seeing "Found in Yonkers" and one day after viewing the performance at the Golden Globe, O'Neill saw a show which was one of two to which he gave ☆☆☆☆.
5. Among the works reviewed were "Mutts!" and the production at the Apollonia.
6. The performance at the Golden Globe, which wasn't "Ms. Bangkok," didn't receive ☆☆☆.
7. Consecutively, the critic saw the production at the 40th Street Playhouse then "Cellist in the Cellar."

Solution is on page 93.

Use the space below for solving.

MINUTE MATH

3. In one corner of the cocktail table there are 7 3/4 piles of pretzel sticks; in the second corner, there are 3 4/7 piles; in the third corner, 2 1/7 piles; and in the fourth corner, 1 2/7 piles. If you put all of these piles together, how many piles would you have?

4. Fondly remembering his childhood, Remmy Niss recalled that a double-dip ice-cream cone cost ten cents. The ice cream cost nine cents more than the cone. How much did the cone cost?

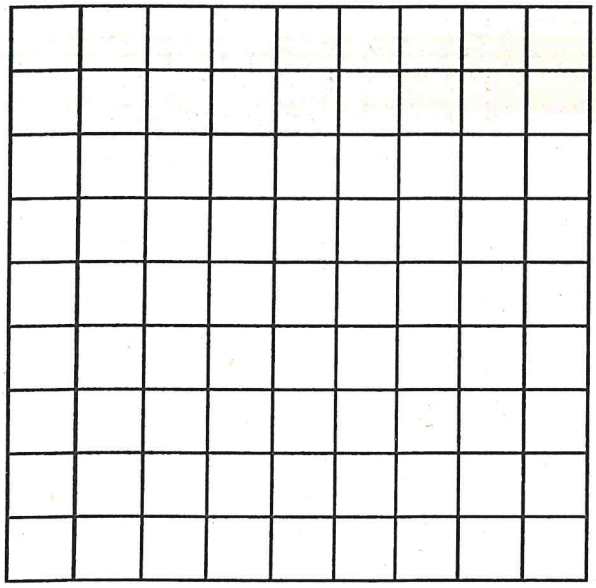
Answers are on page 96.

FIGURE LOGIC 9

Directions for solving Figure Logics are on page 7. This puzzle is a diagramless — you will have to enter the black squares as well as the numbers into the diagram as you solve. Remember that the diagram is symmetrical from the top-left corner to the bottom-right corner so, when you decide the location of one black square, you can enter its counterpart. If you need help starting this puzzle, a starting help is given on page 98.

ACROSS

1. One less than 27-Across
3. 1-Across times 21-Down
6. Digits of 24-Down rearranged
7. 30-Across times 8-Down
9. 27-Across plus 8-Down
10. 17-Across plus 6-Down
11. 7-Down plus 10-Down
12. Consecutive odd digits in some order
14. 11-Across minus 21-Down
16. 2-Down minus 7-Down
17. Same digit repeated
19. Consecutive digits in some order
21. 10-Across plus 13-Down
23. One more than 32-Across
25. 19-Across times 21-Down
27. Twice 21-Down
28. Square of 31-Across
30. 8-Down times 21-Down
31. Square of 21-Down
32. 1-Across plus 4-Down



Solution is on page 89

DOWN

1. Five times 3-Down
2. 21-Down plus 26-Down
3. 6-Down times 21-Down
4. One more than 27-Across
5. 3-Across plus 24-Down
6. 6-Across plus 26-Down
7. Ten more than 27-Across
8. 26-Down minus 17-Across
10. Same digit repeated
13. Four more than ten times 2-Down
15. 5-Down plus 6-Down
18. 1-Down plus 21-Down
20. Square of 26-Down
21. One third of 19-Across
22. Half of 6-Across
23. 16-Across plus 21-Down
24. 1-Across plus 11-Across
26. 19-Across plus 27-Across
29. Twice 4-Down
30. Consecutive digits in some order

NUMBERAMA 1

Can you discover the logical pattern for each number sequence below and thereby discover the missing number (shown by the dash)? For example, for

26 16 20 11 ___ 7 11 4 8

the solution is:

26(-10)=16(+4)=20(-9)=11(+4)=15(-8)=7(+4)=11(-7)=4(+4)=8.

A.	24	28	25	30	___	33	30	37	34	
B.	63	47	31	37	___	27	11	17	23	
C.	7	14	28	24	___	32	64	52	36	
D.	8	24	12	6	___	52	26	13	78	
E.	6	36	22	11	___	75	62	52	55	
F.	21	3	10	24	___	2	8	21	10	
G.	11	2	5	10	___	6	12	5	10	20
H.	1	8	2	9	___	21	16	22	11	
I.	52	80	20	14	___	10	4	28	7	1
J.	14	1	2	4	___	2	3	6	42	

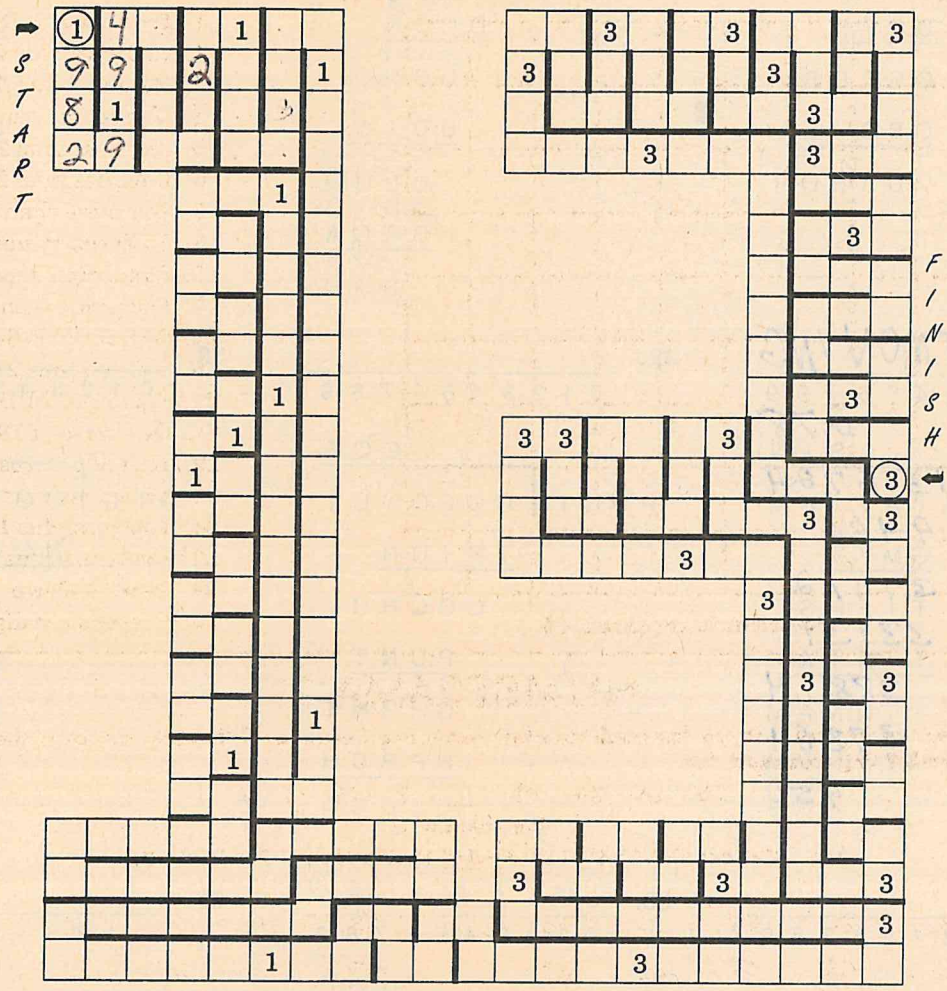
Answers are on page 93.

THE BIG THIRTEEN

Starting at the circled 1 at the top-left corner of the diagram, see if you can wend your way to the finish by entering the given numbers into the diagram in a continuous "chain" of numbers; that is, the last digit of a number in the chain is the first digit of the next. The correct route through the diagram is marked by the heavy lines; do not cross through them. All of the 1s have been entered into the "1" section of the diagram, and all of the 3s have been entered into the "3" section. If you can finish in less than thirteen minutes, you've proven that thirteen is your lucky number!

Solution is on page 91.

03928172	19829194	29484759	38209837	48934902	58930293	73524123	78592340	92834775
04948572	23390495	30593487	38212921	49583272	59039485	73625127	83948765	92837589
05782390	26112349	32843756	38271628	57483920	63728234	75402137	89203954	98374659
05823748	28121093	33218987	38495029	58392817	72637847	75645362	90392837	
12283920	29176453	37390273	47905673	58725893	73282985	76251423	92302483	

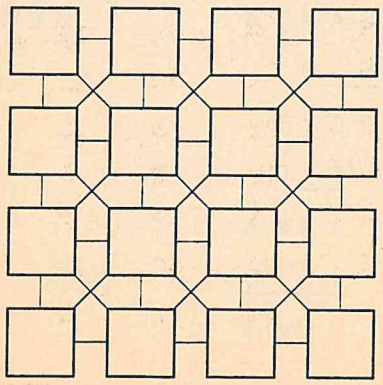


PLACEMENT

Use a bit of reasoning to place the letters A through P into the diagram to the right in such a way that letters that are adjacent alphabetically are not in the same row, column, or diagonal line. For example, neither A nor C can be in the same row, column, or diagonal line as B.

Our solution is on page 91.

A	B	C	D	E	F	G	H
I	J	K	L	M	N	O	P



WORD ARITHMETIC

Directions for solving Word Arithmetic are on page 14. Solutions are on page 97.

28.

0 1 2 3 4 5 6 7 8 9

```
          ORE
DOPE | TROOPS
       SDRO
        ARPP
        DOPE
        OSTDS
        OBOUE
         UARO
```

29. ABDUCTIONS

0 1 2 3 4 5 6 7 8 9

```
          2685
           DINT
408 | 1095678
CAN | BASTION
       816
       NBI
      2796
      DOSI
      2448
      DCCN
       3487
       UCNO
       3264
       UDIC
        2238
        DDUN
        2040
        DACA
         198
         BSN
```

30.

0 1 2 3 4 5 6 7 8 9

```
          TOM
SEA | THOMAS
      ODIT
       OLEA
        SEA
        MHHS
        LADH
         ETS
```

31. FASTMOVING

0 1 2 3 4 5 6 7 8 9

```
          278
           SIN
4733 | 1316784
MITT | ATAVISM
       9466
       GMVV
       37012
       TIFAS
       33131
       TTATA
        38814
        TNNAM
        37864
        TINVM
          950
          GOF
```

32.

0 1 2 3 4 5 6 7 8 9

```
          COG
PUNT | COCONUT
       TPIUN
        OGCBU
         PUNT
         GHHNT
         NPBCH
          IHTU
```

33.

0 1 2 3 4 5 6 7 8 9

```
          AND
OIL | NOTICE
      NOCI
       UIC
       OIL
       NDEE
       NEUL
        NUC
```

34.

0 1 2 3 4 5 6 7 8 9

```
          TIE
EYE | SANTA
      SJB
       CYT
       EYE
       ISBA
       IBIC
        IAI
```

35. SAYTHEWORD

0 1 2 3 4 5 6 7 8 9

```
          675
           WOE
9562 | 6458510
DEWY | WHEREAS
       57372
       EOTOY
        72131
        OYATA
        66934
        WWDTH
         51970
         EADOS
         47810
         HORAS
          4160
          HAWS
```

36.

0 1 2 3 4 5 6 7 8 9

```
          PEN
OUT | GOATS
      OUT
       BSGT
       BPPT
        TNUS
        TSAU
         PSS
```

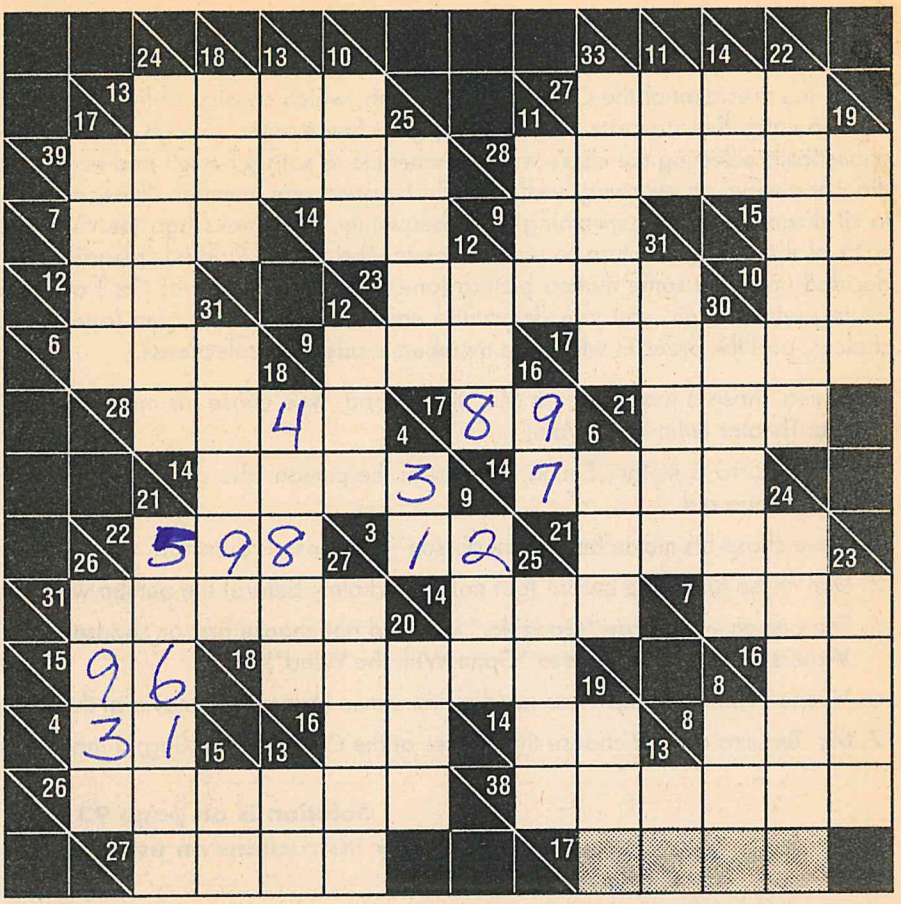
CROSS SUMS

NUMBER 15

If you need help starting a puzzle, the digit combination to go into its shaded area is on page 97.

Try - Tame?

Try - 10's?

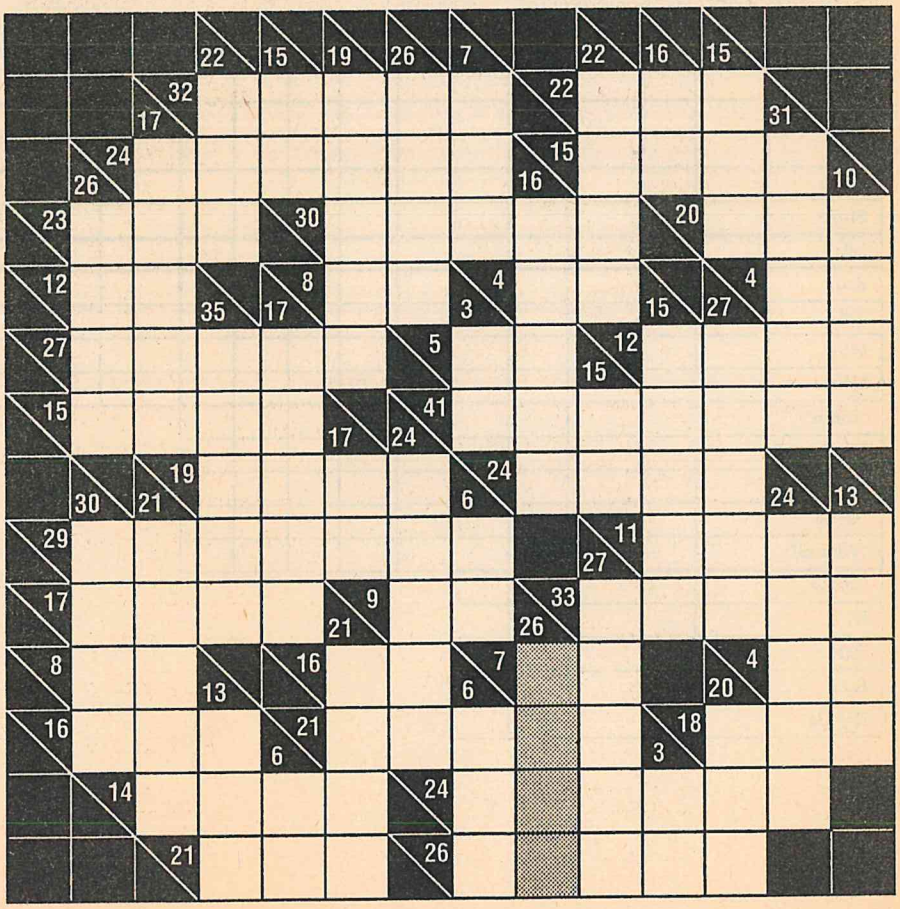


See page 6 for solving directions.

Solutions are on page 88.

NUMBER 16

Oh dear! a barefoot Devil!?



LOGIC PROBLEM

11. LIGHTS! CAMERA! DISSATISFACTION!

by VARDA REISNER

Lisa is the president of the Classic Cinema Club, which consists of five friends who frequent Dellville's revival movie theaters to catch their favorite old films. The past few months, though, she had been taking advantage of her position by egotistically selecting the club's viewing schedule to satisfy herself and not the other four. Naturally, Lisa's movie choices did not always go over very well. "Really!" griped one member. "How many Norma Shearer films does she expect us to sit through without screaming?" Consequently, two weeks ago the club voted to adopt a rotation system in which each of the five gets a turn to pick a classic. The system worked splendidly last week; as it turned out, no two friends decided upon the same motion picture (one was "The Wizard of Oz") or theater (one was the Royale). Using the following information, can you determine each member's full name (one last name was Sayakuro), film and theater choices, and the order in which the members made their selections?

1. Emma chose a movie before Mr. Underwood, who chose his movie before the woman who chose the movie at the Ritz Theater (who is not Vale).
2. Ms. Turturro is neither Emma nor Mona; the person who chose "Birth of a Nation," who did not choose last, chose after Mona did.
3. Steve chose his movie before the person who chose "Fantasia."
4. Don chose his movie before (but not immediately before) the person who chose the movie at the Castle.
5. The person who chose "Godzilla," who did not choose first or choose the Palace Theater, chose immediately before Waters (who did not choose "Gone With the Wind").
6. "Gone With the Wind" was not the first movie chosen; the movie at the Ritz was not chosen last.
7. Ms. Turturro did not choose the movies at the Castle or the King; a man chose the movie at the Palace theater.

Solution is on page 93.
See page 5 for instructions on using standard charts.

	Saya.	Tur.	Under.	Vale	Wat.	Cas.	King	Pal.	Ritz	Roy.	"Birth"	"Fan."	"Godz."	"Gone"	"Wiz."	1st	2nd	3rd	4th	5th
Don																				
Emma																				
Lisa																				
Mona																				
Steve																				
1st																				
2nd																				
3rd																				
4th																				
5th																				
"Birth"																				
"Fantasia"																				
"Godzilla"																				
"Gone"																				
"Wizard"																				
Castle																				
King																				
Palace																				
Ritz																				
Royale																				

LOGIC PROBLEM

12. WEEDERS' DIGEST **by EVELYN ROSENTHAL**

A few weeks ago, kindly old Ruta Baga fell and broke her leg, rendering her unable to attend to her prize vegetable garden. Luckily, six of the kids in the neighborhood (including Ann) generously volunteered to assist her by performing the necessary weeding duties until she mends. When the group came over last week, Ruta assigned to them the six weeds most prevalent in her garden; because she trusts some children more than others, each one may pull out only his or her assigned weed(s). The Moroni child told her that the six won't accept any money for their favor, so in appreciation Ruta decided to print out a "Weeders' Digest" on her home computer and mail it to all of the families in the neighborhood. From the clues given, can you complete the "Digest" below by determining each child's full name and assigned weed(s)?

1. Each weed was assigned to two children, and each of the six children was assigned to at least one of the weeds; no child was assigned more than three weeds, however.
2. Joel had more kinds of weeds than the only girl who had dandelions, but fewer than the Hellman girl.
3. Martha had purslane but not grass.
4. Mel's last name is not Baron.
5. The Cruz child is not Martha.
6. Between them, two of the children were assigned all six weeds.
7. Martha had fewer kinds of weeds than the Gorham boy, but more than the only boy who was assigned sorrel.
8. Kate and the Salmon child thought that they both had the same weed until Ruta pointed out the differences between grass and onion grass.
9. Fred and the Cruz child were both assigned knotweed.

Solution is on page 93.

The "Weeders' Digest" below was found to be of more help in solving this Logic Problem than the usual chart.

WEEDERS' DIGEST

I want you all to know that the children below are perfect dears. They are helping me, Ruta Baga of 3250 Crabgrass Drive, to weed my vegetable garden until my broken leg heals.

first name	last name	weed(s)

NUMBER PLACE

In these puzzles, your job is to place a number into each box so that each row across, each column down, and each small 9-box square within the larger square (there are 9 of these) will contain each number 1 through 9. Remember that no number may appear more than once in any row, column, or 9-box square; this will help you solve the puzzle.

Solutions are on page 90.

7.

		4			1	8	6	
6			7	4				1
	1	7	3				2	
2		9	6			7		
	7			5		9	3	
	3			7	9			2
7					8		4	3
4	6		5			1		
		5		3	4			6

8.

	5			4	2	3		
	3		7				5	8
9		8			1		4	
		3	2	9		5		
	9			5		4		1
5		7			8		2	
3			6				1	5
7			9		5	6		
	2	5		7				4

9.

5	4	6	2	3	7	1	9	8
1	8	7	4	6	9	3	5	2
9	2	3	1	5	8	4	7	6
6	7	9	3	8	5	2	4	1
2	1	8	6	7	4	5	3	9
3	5	4	9	1	2	6	8	7
4	3	2	8	9	6	7	1	5
7	9	1	5	2	3	8	6	4
8	6	5	7	4	1	9	2	3

10.

	8	1			4		5	
		3		5	7			4
7			6			1		2
9		8		6				1
	6		2		5		9	
	2			1		8	6	
4	7			3		9		
		9	8			3	4	
8			9		1			7

11.

	8		1		2		9	
1		2	7				3	
	7			6		1		2
6		7		2				3
2					5		1	8
	1		4		3	2		
		6	9	8		3		
	2			1			6	4
3		1			6	7		

12.

	9			5	2		1	
	6	1			3			2
7			9			8		5
	1		6	7			9	
3		7		2				1
		9			5	7	2	
1	7			9		2		
		6	2		4			7
4			3			5	6	

NUMBER CODE

Numbers have been substituted for the letters in six everyday English words below. Can you decode each word? A number will represent the same letter throughout the puzzle, and the letters used are given above the puzzle. After you have decoded the words, place the letters in numerical order to find a phrase.

Answer is on page 94.

A F I M N O R S T W

4 6 6

4 5 6

6 0 0

0 2 6 3 4

7 6 1 3 4

3 9 6 5 7 8 9

CROSS NUMBERS 3

The idea here is to arrive at the numbers in the bottom and right-hand column of the diagram by following the arithmetic signs in the order they are given (that is, from left to right and top to bottom), using only the numbers given below the diagram.

Solution is on page 90.

	−		+		9
X		+		−	
	X		÷		10
+		X		+	
	−		X		8
21		42		9	

1 2 3 4 5 6 7 8 9

NUMBER FILL-IN

In this puzzle, the numbers to be entered into each row across and each column down will form a numerical sequence with the numbers already in the diagram. For example, if you saw the numbers 5, ?, 15 already in the puzzle, you could figure out that the missing number is 10, and the sequence involves adding 5 to each number to get the next number. The sequences always increase from LEFT to RIGHT and from TOP to BOTTOM. See if you can figure out each sequence and fill in all the missing numbers.

Solution is on page 91.

2	9	16	23	30	37	44		70	73	76	79	82	85	88
6				40		54		76		84				108
10	20	30	40	50		64		82		92	101	100	119	128
14				60	67	74	81	88		100				148
18	31	44	57	70			91			108		124		
22		50				96	101	106	111	116	121	126	131	136
26		56		93			111			124		128		144
30	46	62	78	94			121					130		152
34				95	107	119	131	143	155	167		132		160
38		52		96								134		168
42		62		97			130			96	116	136	156	176
46	59	72	85	98	111	124	137	150		107		138		184
50		82			130		144			118				192
54		92			149		151							
58	80	102	124	146	168		158	170	182	194	206	218	230	242

ODD LOTS

Odds are, you won't have too much trouble solving this puzzle! Your task is to find all of the Odd Lots in the diagram on the right. An Odd Lot is simply any three adjacent numbers on a diagonal adding up to 15; we've drawn a line through an example. Be warned, however, that not every number is part of an Odd Lot. How many Odd Lots can you find?

Solution is on page 91.

3	7	7	13	3	5	3	9	3	7	5	9
9	5	3	3	3	5	1	5	3	13	7	3
5	5	3	7	5	1	1	9	1	1	11	9
5	5	1	7	3	9	7	1	5	3	3	3
1	3	7	11	9	3	5	7	1	3	5	5
1	5	5	5	1	1	11	5	1	7	9	1
13	9	9	9	3	1	13	3	5	1	5	5
11	1	9	9	1	9	13	1	1	9	1	5
7	3	1	1	5	3	5	11	11	9	5	7
3	7	7	7	3	7	5	3	9	9	1	5
9	7	5	3	3	9	1	7	3	7	1	7
5	3	1	7	9	3	3	1	9	5	1	5

LOGIC PROBLEM

13. 'ROUND AND 'ROUND THEY GO

by SUSAN ZIVICH

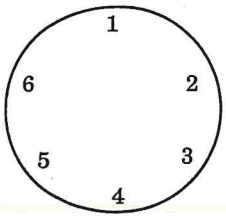
The Martin twins celebrated their birthday by having a party with some of their friends in Carousel Park. Mrs. Martin had baked birthday cupcakes, and gave each child a balloon (one was pink), then all six children went for a spin on the carousel, which has six different animal seats. From the clues, can you give each child's full name, the animal each rode on the carousel, the color balloon each received, and their order on the carousel?

1. No child rode right behind his or her own sibling.
2. Elizabeth rode right behind the tiger and just ahead of the child with the purple balloon.
3. One of the Shapiro boys sat just behind Ryan, who was in seat 1, and just ahead of the dragon.
4. The child on the swan held an orange balloon.
5. Sharon was just behind the child on the lion.
6. Patsy was just behind Ryan's sister and just ahead of the boy with the green balloon.
7. A blue balloon was tied to Andrew's wrist.
8. Jason was just ahead of the girl who rode the galloping horse.
9. One of the Delgado girls was on the giraffe; the other did not have the yellow balloon.

Solution is on page 93.

See page 5 for instructions for using standard charts. Note that in this chart some rows and columns will contain more than one dot; and keep in mind that, since the carousel is a circle, the child in seat 6 is ahead of the child in seat 1. In addition to the chart, we've included a small illustration of the carousel to assist you in visualizing this.

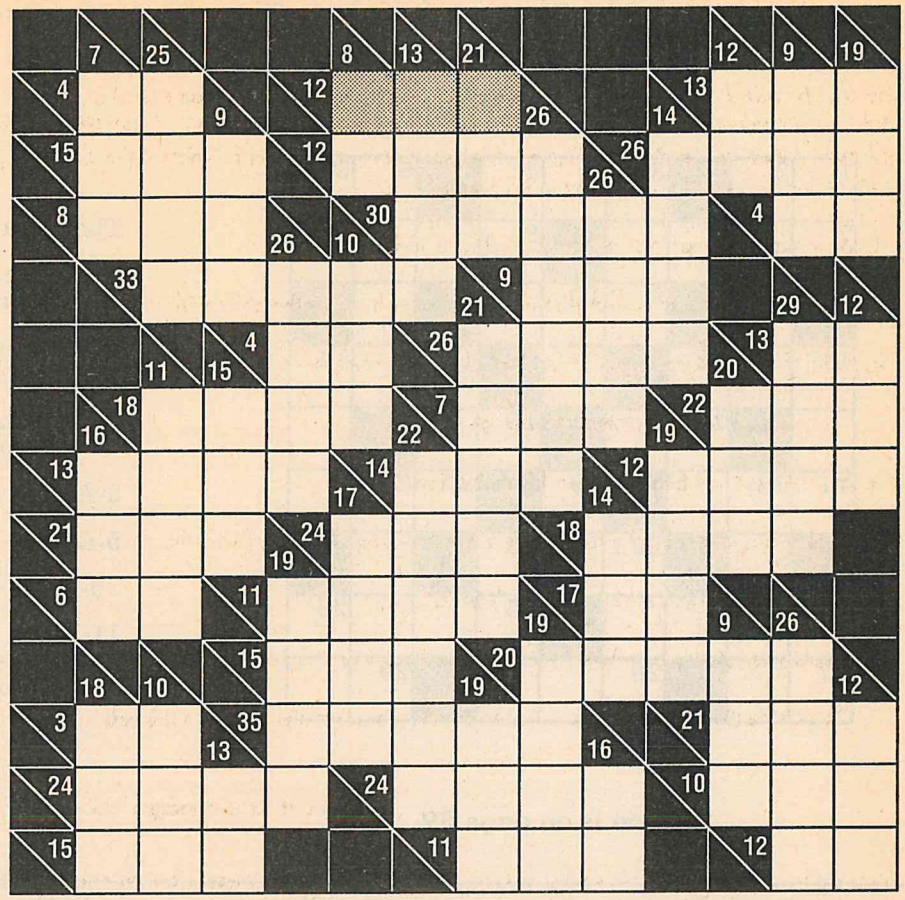
	Delgado	Martin	Shapiro	dragon	giraffe	horse	lion	swan	tiger	blue	green	orange	pink	purple	yellow	1	2	3	4	5	6
Andrew																					
Elizabeth																					
Jason																					
Patsy																					
Ryan																					
Sharon																					
1																					
2																					
3																					
4																					
5																					
6																					
blue																					
green																					
orange																					
pink																					
purple																					
yellow																					
dragon																					
giraffe																					
horse																					
lion																					
swan																					
tiger																					



CROSS SUMS

NUMBER 17

If you need help starting a puzzle, the digit combination to go into its shaded area is on page 97.



See page 6 for solving directions.

Solutions are on page 88.

NUMBER 18

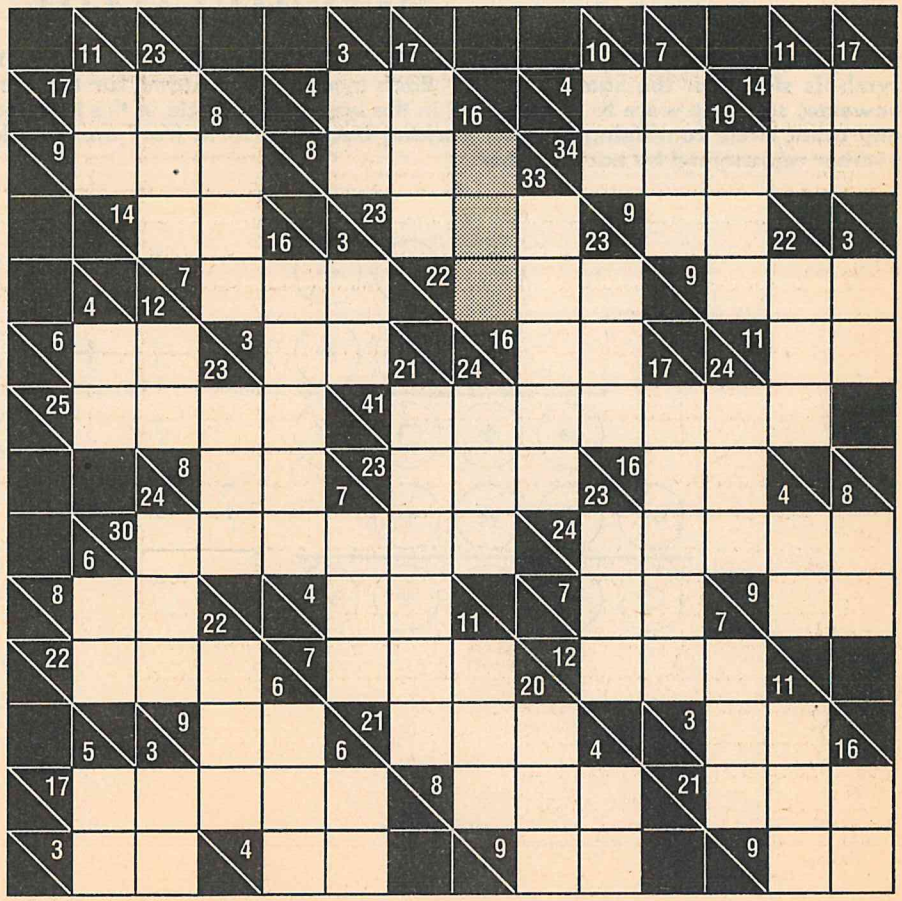
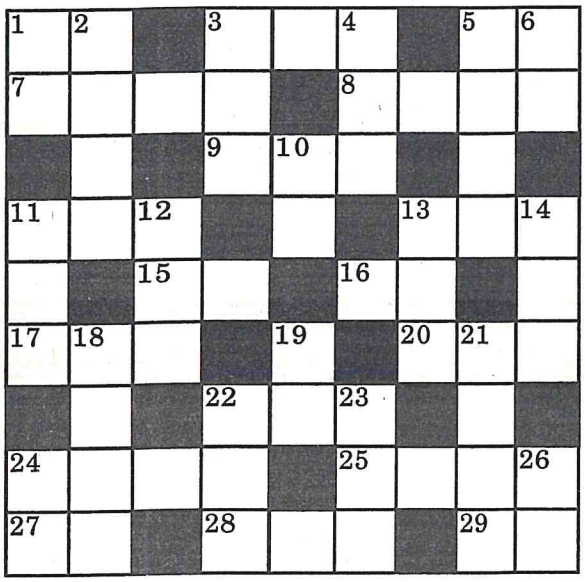


FIGURE LOGIC 10

Directions for solving Figure Logics are on page 7.

If you need help starting this puzzle, starting digits are given on page 98.



CLUES

There are no zeroes in the solution.

All numbers are consecutive digits in either ascending or descending order.

1-Down is the same as 16-Across reversed.

2-Down has no digits in common with 21-Down.

3-Across is the same as 22-Across.

5-Across is the same as 19-Down.

10-Down is the same as 27-Across.

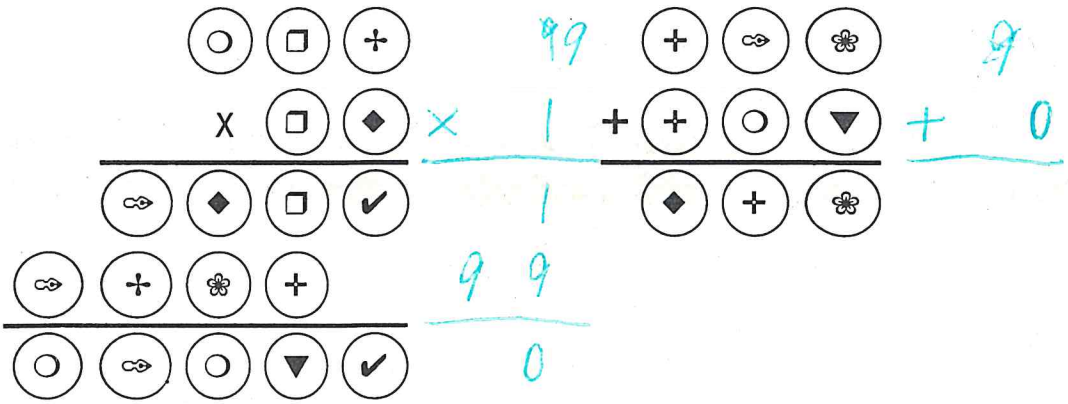
11-Down equals fifteen times 15-Across, and is the same as 13-Across, 13-Down, and 28-Across.

Solution is on page 89

TWO-PART MATH

Each of the symbols in the two arithmetic problems below stands for one of the numbers 0 through 9, but no two symbols stand for the same number. Each symbol does stand for the same number through both problems, however, so if you were to place a "3" in the upper right circle in the first problem, you would also place a "3" in any other circle containing ✢. By working back and forth from one problem to the other, can you deduce the number represented by each symbol?

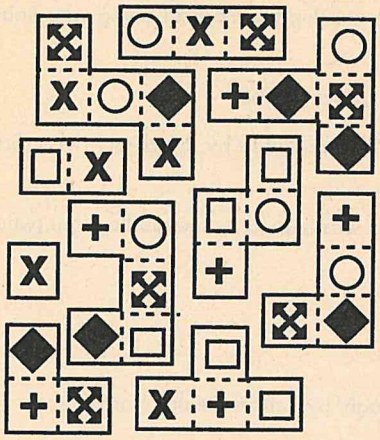
Solution is on page 94.

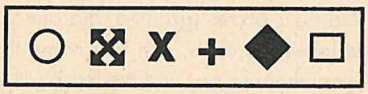


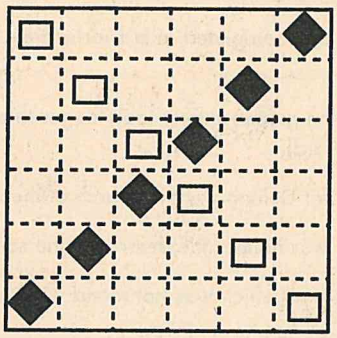
JIGSAW LOGIC

All you have to do to solve this puzzle is fit the ten pieces below on the left into the grid so that each line across and each line down contains the six different symbols pictured above the grid. The symbols already in the grid are there to help you figure out how the pieces fit together and should not be moved or changed in any way. Likewise, each of the ten pieces must be kept as a unit as it is pictured. The pieces can be turned in any direction to fit into the grid. When you've finished, no symbol will be repeated within a line either across or down.

Solution is on page 91.







LUCKY NUMBER SEARCH

If the number "13" is lucky, "1313" must be twice as fortunate! And you'll be fortunate indeed if you can find all of the 1313s hidden in the diagram to the right. Reading up, down, left, right, or diagonally (but always in a straight line), can you find all 79 of the twice-lucky numbers? Digits may be used more than once in the diagram, and the numbers often overlap. You will not, however, use all of the numbers in the diagram. It's important to circle or cross through the number each time you find it, and keep track of the number of times you've found it!

Solution is on page 91.

1	3	1	3	3	1	1	3	1	3	3	3	1
1	1	1	3	1	3	1	1	1	3	1	3	3
3	3	3	3	1	3	1	3	3	3	1	1	1
1	1	1	1	1	3	1	1	1	3	1	3	3
1	3	1	3	1	1	3	1	1	1	3	1	3
3	3	3	1	1	3	1	1	1	1	3	1	3
1	1	3	1	1	1	1	3	3	1	3	3	1
1	3	3	3	1	3	1	3	1	1	1	1	1
1	1	1	3	1	1	1	1	3	1	3	3	1
3	3	1	3	1	1	1	3	3	3	1	3	3
3	3	3	3	3	3	3	1	3	1	1	1	1
3	3	1	3	1	1	3	1	3	3	3	3	3
1	3	3	3	3	1	3	1	3	3	1	3	1

Mini Me & Girlfriend
'Livin La Vida Loca'
It's Friday the 13th!
R & G Records

LOGIC PROBLEM

14. THIS IS MY QUEST

by MARY MARKS CEZUS

Once upon a time, there was a kingdom ruled by a rather greedy but lazy king named Mineness. If he heard a legend about a jeweled sword or a magic potion, he just HAD to have it, so he'd send one of his subjects on a quest to get it. Quests, as you know, are no picnic — they usually involve fighting dragons or charting paths through enchanted forests. However, the punishment for quitting a quest and returning without the goods was banishment to the kingdom ruled by Mineness' nasty brother Meanness, where people slave all day cutting the grass with broken scissors and eat nothing but wilted spinach. So questers would spend months and years hunting down whatever it was they were supposed to find — five such questers took 16 months, 28 months, 3 years, 4 years, and 5-1/2 years to find their prizes (granted, the one who took the longest likes the enchanted forest, and has a REALLY bad sense of direction). From the following clues, can you name the object sought by each quester, the magical being who finally took pity on each and told him or her where to go, and the length of each quest?

1. The one who sought the ancient scroll (who was not Delilah) was not helped by the gnome.
2. Clyde's quest was completed in a shorter time than the quest of the one who was aided by the dwarf (who did not seek the silver chariot).
3. The quest for the golden quiver took longer than the quest of the person who was helped by the gentle giant (who did not seek the jeweled sword).
4. Neither Ariel nor Delilah went in search of the magic potion.
5. Bjorn's helper was neither the dwarf nor the sorceress.
6. The golden quiver (which was not found with the help of the gnome) was sought by neither Delilah nor Ezra.
7. The fortune teller did not help Ariel (whose quest took less time than the quest for the ancient scroll) nor Bjorn; the fortune teller didn't help the one who made the longest quest, either.
8. Ezra took less questing time than the one who was helped by the gnome (who did not make the longest quest).
9. The longest quest was not for the jeweled sword.

Solution is on page 94.

See page 5 for instructions on using standard charts.

	char.	pot.	quiv.	scr.	sw.	dwarf	fort.	giant	gnome	sorc.	16mo.	28mo.	3yr.	4yr.	5-1/2yr.
Ariel															
Bjorn															
Clyde															
Delilah															
Ezra															
16 months															
28 months															
3 years															
4 years															
5-1/2 years															
dwarf															
fortune teller															
giant															
gnome															
sorceress															

WORD ARITHMETIC

Directions for solving Word Arithmetic are on page 14.

Solutions are on page 97.

37.

```
MAGICPOWER
0 1 2 3 4 5 6 7 8 9
          5128
            PAGE
898 | 4605178
ERE | COMPARE
      4490
      CCRM
       1151
       AAPA
        898
        ERE
        2539
        GPIR
        1796
        AWRO
         7438
         WCTE
         7184
         WAEC
          254
          GPC
```

38.

```
ISPYONTHEM
0 1 2 3 4 5 6 7 8 9
          1451
          SONS
1446 | 2098564
SOOT | PIMENTO
       1446
       SOOT
        6525
        TNPN
        5784
        NHEO
         7416
         HOST
         7230
         HPYI
          1864
          SETO
          1446
          SOOT
           418
           OSE
```

39.

```
0 1 2 3 4 5 6 7 8 9
            TAR
NEAR | CADENCE
       CRAET
        RNFCC
        RIOTA
         RCDRE
          NEAR
          OFDN
```

40.

```
0 1 2 3 4 5 6 7 8 9
          RAY
ARTY | RUDDER
       RSGD
        RSLE
        ARTY
        ARGSR
        AAERA
          YGA
```

41.

```
0 1 2 3 4 5 6 7 8 9
          RIG
LAIR | ANNUAL
       LAIR
        ERURA
        UNGII
         UIGRL
         UENCG
          UACT
```

42.

```
0 1 2 3 4 5 6 7 8 9
          HER
SHOE | PREPARE
       RSHDF
        AUHAR
        AFOPP
         UPODE
         UUHHP
          OAPP
```

43.

```
0 1 2 3 4 5 6 7 8 9
          OAR
FUR | PARDON
      PSFA
       AAAO
       TUTO
        FTSN
        PONT
         AFA
```

44.

```
0 1 2 3 4 5 6 7 8 9
          BET
ALE | GOBLET
      ONLL
       LTFE
       LBEL
        AGLT
        LTBG
         BOK
```

45.

```
0 1 2 3 4 5 6 7 8 9
          NOG
ION | OBOES
      ION
       LYBE
       LOIO
        NGGS
        YHG
         GHL
```

CROSSMATH 1

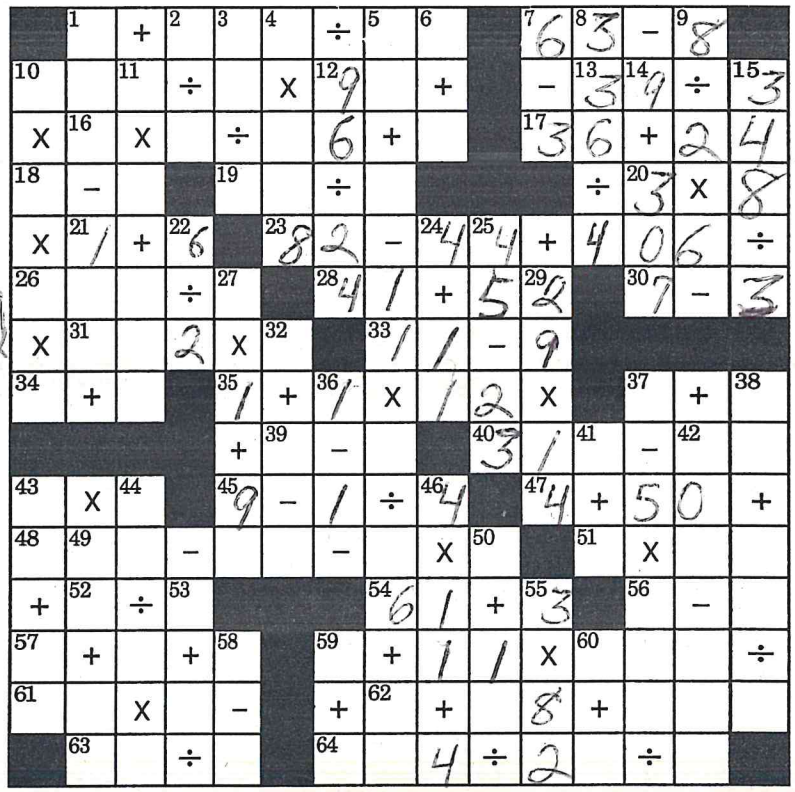
This looks like a crossword puzzle, but it involves numbers, not words. The numbers given in the clues columns are the answers to simple arithmetic problems; the numbers you enter into the diagram will form the problems which result in those answers. All the arithmetic symbols (+, −, x, ÷) have already been entered in their appropriate squares in the diagram. Use the symbols, the crossing numbers, and a bit of logic to determine the digit to enter in each blank square (one digit per square). An important thing to remember: the arithmetic is to be done in the order in which it reads, from left to right or top to bottom—for example, 1 + 2 x 3 equals 9 (1 + 2 = 3; 3 x 3 = 9). If done in any other order, your solution won't work. Arithmetic signs at the beginning or end of a problem (as in 10-Across) should be ignored. You will never use zero as the first digit of a number, though there may be zeroes used as later digits. There are no negative numbers used here, nor are there any fractions used. If you need help getting started, you'll find the correct entry for 44-Down on page 98. **Solution is on page 91.**

ACROSS

1. 32
7. 55
10. 1911
13. 13
16. 10
17. 60
18. 1
19. 9
20. 24
21. 7
23. 444
26. 34
28. 93
30. 4
31. 714
33. 2
34. 11
35. 24
37. 14
39. 2
40. 254
43. 36
45. 2
47. 54
48. 2
51. 168
52. 2
54. 64
56. 0
57. 19
59. 1728
61. 88
62. 977
63. 18
64. 3

DOWN

1. 707
2. 2
3. 11
4. 888
5. 11
6. 15
7. 3
8. 84
9. 24
10. 18
11. 233
12. 4
14. 316
15. 116
22. 3
24. 15
25. 22
27. 102
29. 406
32. 6
36. 0
37. 444
38. 18
41. 13
42. 115
43. 103
44. 60
46. 48
49. 43
50. 19
53. 8
55. 246
58. 4
59. 6
60. 5



Lisa
'Let's Get Togen'
When's Not the Wedding?
P.I. Records

Betsy the Shoe Dangler?

BINGO PLAYS 1

In this puzzle, you are trying to fill your "card" with numbers and make a winning Bingo game. Just as in Bingo, each column has limits set for the numbers that can be placed in that column, as shown at the top of the card. For example, in column B, every square will have a number between 1 and 15 inclusive; in column N, every number will be between 31 and 45 inclusive. Use the given clues to eliminate possibilities within those limits until you can enter one final number in each square. A number will appear only once in any column. The "free" space in the center of the card is just that; you need not enter a number in that square. After you have filled in your card, find the Bingo winning combination: Just as in Bingo, the five numbers in one row, column, or diagonal will fit the clues given. Circle these numbers and you have won the game!

Solution is on page 89.

1. The number one does not appear on the card in row S, column G, or square PI, PN, PO, LN, YB, YI, or YO.
2. The number two does not appear in row L, column B or O, or square PG or AI.
3. The number three does not appear as a single-digit number, nor does it appear in row A, Y, or S, column G or O, or square PI or LB.
4. The number four does not appear in row P or A, column I, or square LB, LN, LG, YO, SG, or SO.
5. The number five does not appear in column B or N, square PO, LO, AO, YG, SI, or SO, or in the winning combination.
6. The number six does not appear in row L or A, or column B, I, N, or G.
7. The number seven does not appear in row P, Y, or S, column B, I, or N, or square AG.
8. The number eight does not appear in row L, A, Y, or S, or column B, N, G, or O.
9. The number nine does not appear in row P or square AG, YI, SB, or SI.
10. Zero does not appear in row Y, column N or O, square LB, or in the winning combination.
11. The number 66 is the only double-number combination on the card.

	B 1-15	I 16-30	N 31-45	G 46-60	O 61-75	
P						P
L						L
A			FREE			A
Y						Y
S						S
	B	I	N	G	O	

NUMBERAMA 2

Can you discover the logical pattern for each number sequence below and thereby discover the missing number (shown by the dash)? For example, for

26 16 20 11 ___ 7 11 4 8

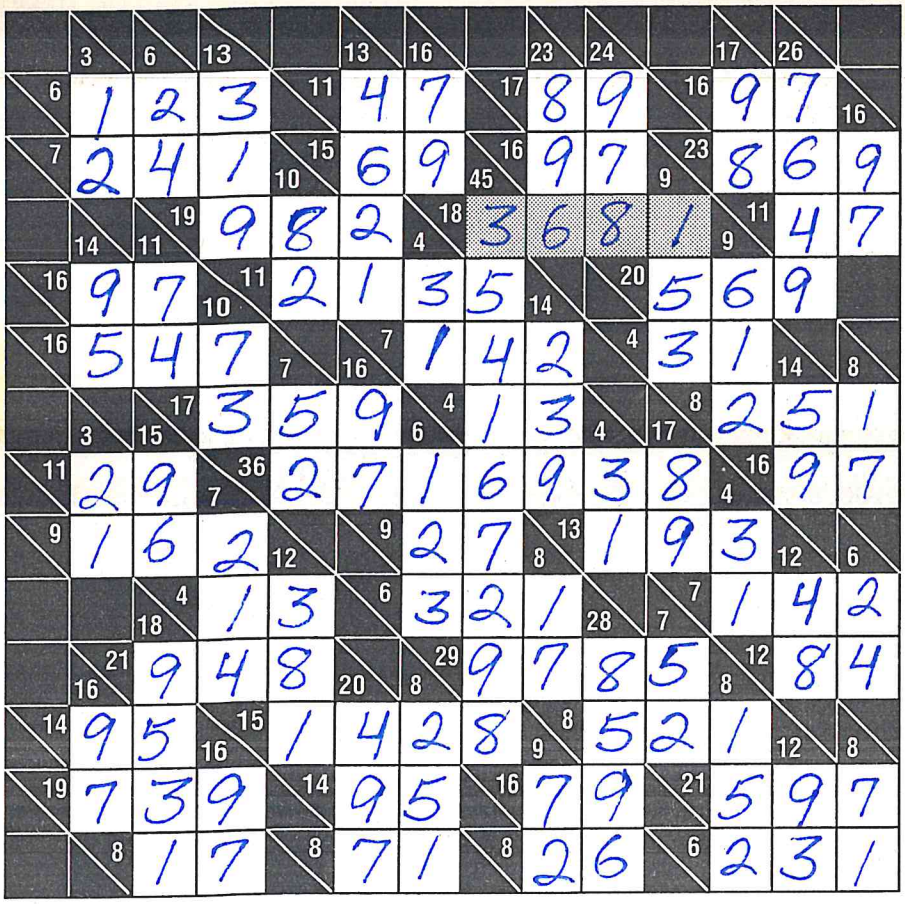
the solution is:

26(-10)=16(+4)=20(-9)=11(+4)=15(-8)=7(+4)=11(-7)=4(+4)=8.

A.	35	48	40	53	____	56	44	57	43	
B.	90	9	25	42	____	6	22	39	57	
C.	2	8	48	12	____	12	72	36	18	
D.	9	1	8	2	____	8	32	30	60	
E.	31	64	16	12	____	16	13	52	26	24
F.	3	21	14	22	____	65	60	66	59	
G.	18	6	12	36	____	21	25	50	54	
H.	6	12	48	4	____	32	4	8	32	8
I.	29	80	20	5	____	52	26	13	11	
J.	42	21	63	21	____	42	10	3	27	5
K.	6	1	7	42	____	6	11	55	44	

Answers are on page 97

CROSS SUMS

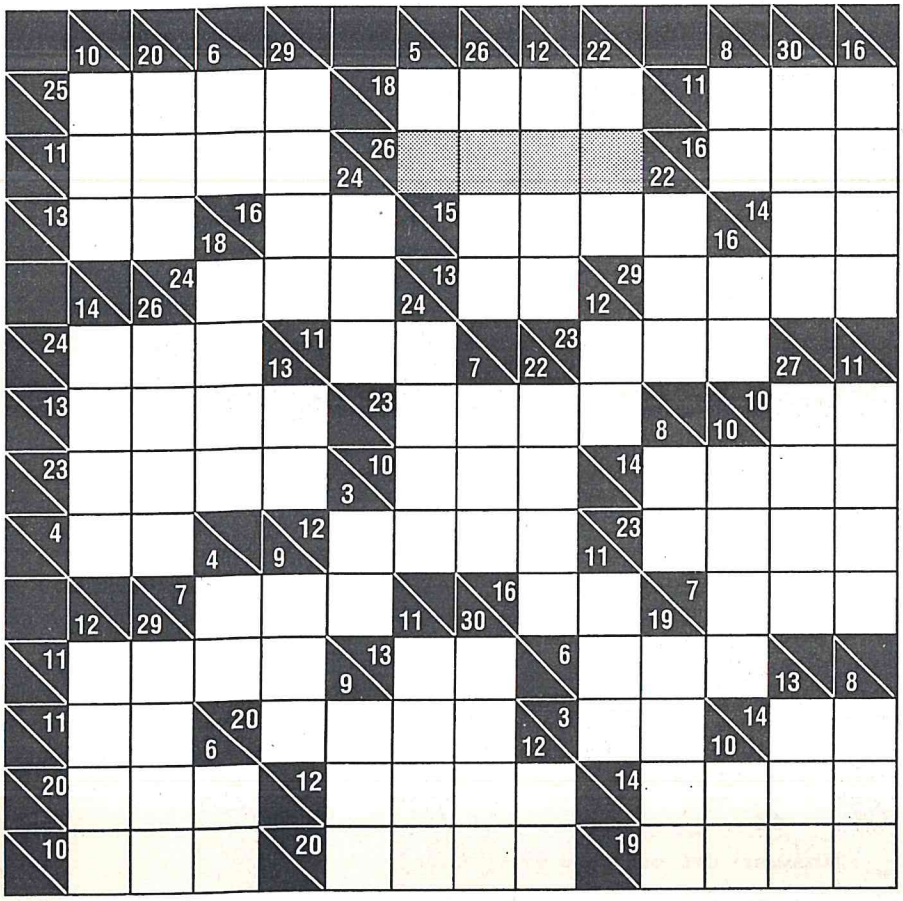


NUMBER 19

If you need help starting a puzzle, the digit combination to go into its shaded area is on page 97.

See page 6 for solving directions.

Solutions are on page 88.



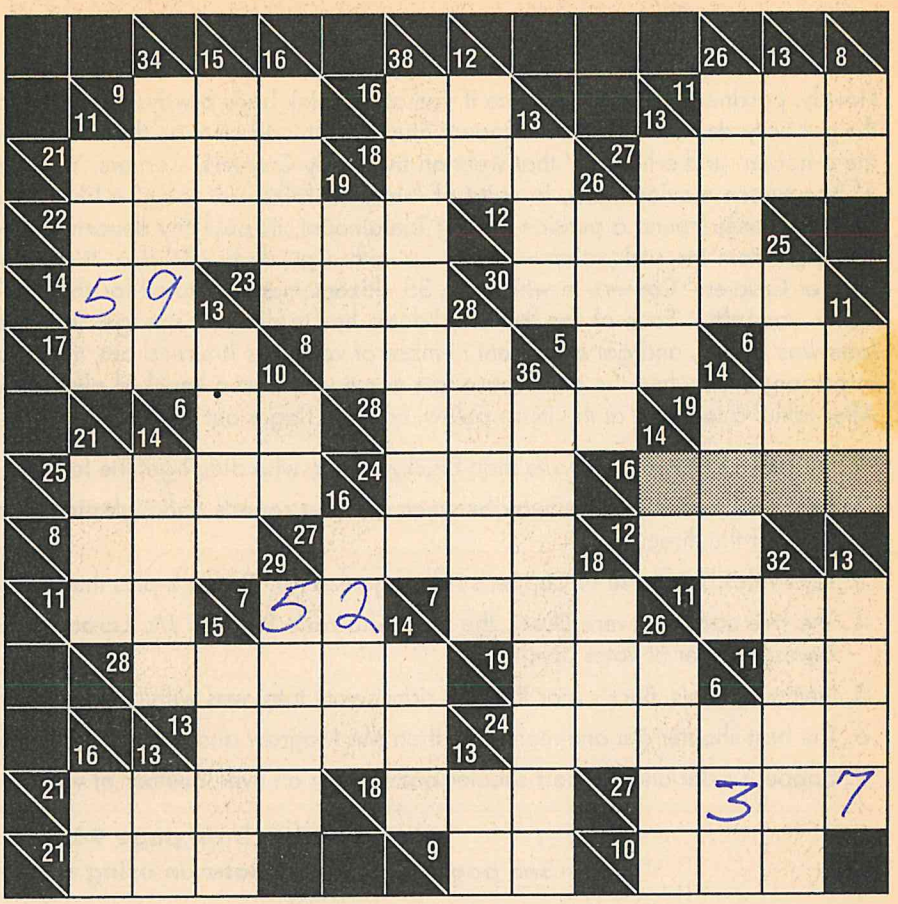
NUMBER 20

Add more to your total puzzle enjoyment with ***Collector's Series Cross Sums.*** *You'll find over 100 of your favorites. To order, see page 15.*

CROSS SUMS

NUMBER 21

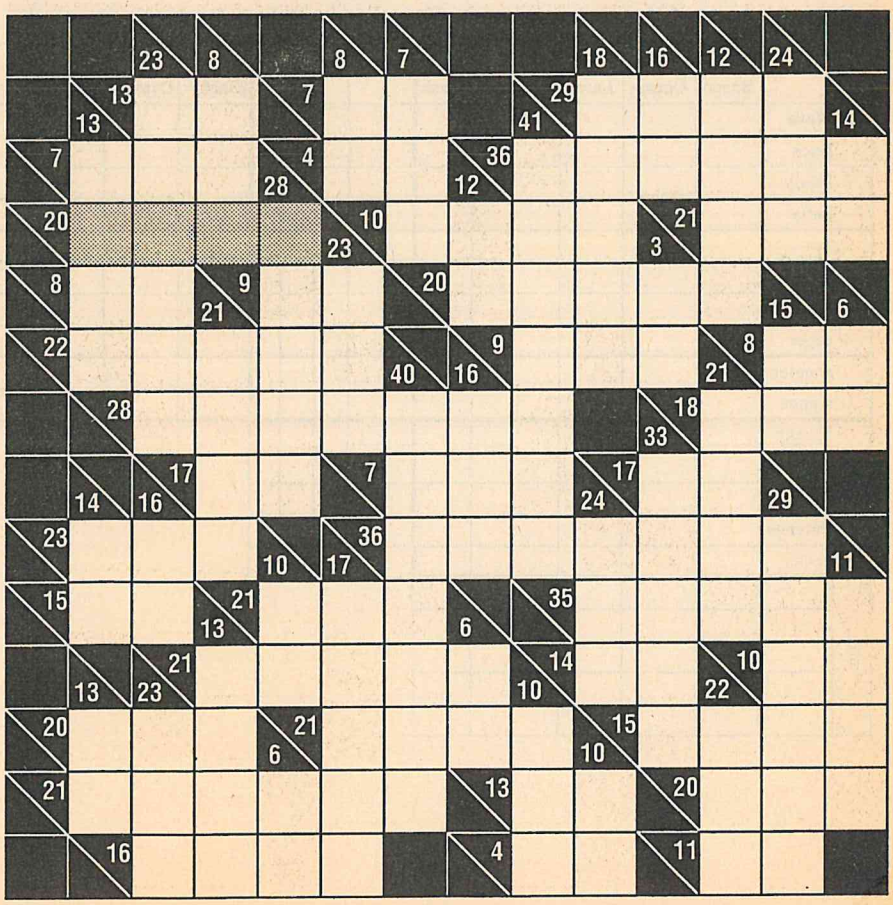
If you need help starting a puzzle, the digit combination to go into its shaded area is on page 97.



See page 6 for solving directions.

Solutions are on page 89.

NUMBER 22



LOGIC PROBLEM

15. CROATERS' OATERS VOTERS

by DIANE BALDWIN

Howdy, pardners! It'd be right-nice if yuh could think back a ways to Hollywood, California, 'round 1940. That's when the publicity department of Tantamount Studios got madder than the donkey that backed into the cactus, on account of the a-hootin' and a-hollerin' that went on in nearby Croaters' Corners. Yuh see, the ol' studio filmed the outdoor scenes of its western movies there, in spite of the townsfolks' not takin' a likin' to all the commotion. Just when the locals started to pass 'round a petition 'gainst Tantamount, its publicity department — which didn't cotton to any bad press it might git from the sitchyation — came up with a purdy bright idea. It decided to hold an election for Cowboy of the Year at Croaters' Corners in which the 35 citizens met and voted for their fav'rite Tantamount western star (one's first name was Lefty). Each of the five candidates had a diff'rent strength (one was a ladies' man), rode a diff'rent horse (one was Socks), and got a diff'rent number of votes. As it turned out, the town was tickled pink to meet the buckaroos in person, even when the one whose last name was Baron knocked off his toupee tippin' his ten-gallon to the crowd! After takin' a look-see at the items below, can yuh figger out each cowboy's full name, horse, strength, and vote total?

1. Mr. Nash got one more vote than Blacky's rider, who didn't get the fewest.
2. Buck's vote total was halfway between the best roper's and Lightning's rider's; Lightning's rider received the most votes of the three.
3. Tex's votes plus those of Copper's rider equaled Mr. Carson's plus the best singer's.
4. The five cowboys were Dusty, the man who rode Patches, Mr. Laroo, the best rider, and the one who received the fewest number of votes (five).
5. Neither Blaze's, Buck's, nor the best rider's vote total was within one vote of each other's.
6. The best shooter got one more vote than Mr. Magraw and one fewer than Tex.
7. Copper's rider and the best shooter both got an an even number of votes.

Solution is on page 94.
See page 5 for instructions on using standard charts.

	Baron	Carson	Laroo	Magraw	Nash	votes					Blacky	Copper	Lightn.	Patches	Socks	ladies'	rider	roper	shooter	singer
Blaze																				
Buck																				
Dusty																				
Lefty																				
Tex																				
ladies'																				
rider																				
roper																				
shooter																				
singer																				
Blacky																				
Copper																				
Lightn.																				
Patches																				
Socks																				
votes																				

FIGURE LOGIC 11

Directions for solving Figure Logics are on page 7.
If you need help starting this puzzle, starting digits are given on page 98.

ACROSS

1. Six more than the square of 28-Down
4. Ten more than 16-Down
7. Square of 2-Down
8. 7-Across minus 27-Across
10. 2-Down plus 28-Down
11. 26-Across times 28-Down
13. Three times 28-Down
14. 20-Across plus 30-Down
16. Average of 4-Across and 4-Down
17. Sum of digits is thirty-two
18. Digits of 7-Down rearranged
20. Four times 16-Down
23. 13-Across plus 30-Down
24. 28-Down times 30-Down
26. Twice 30-Down
27. 29-Across minus 1-Down
29. Square of 23-Across
31. 5-Down times 28-Down
32. Center digit is sum of first and last digits

DOWN

1. 2-Down times 28-Down
2. Three times 30-Down
3. 25-Down minus 15-Down
4. Seven times 5-Down
5. Sixty less than 2-Down
6. 27-Across plus 21-Down
7. 11-Across plus 5-Down
9. Ten times 13-Across
12. Consecutive digits in reverse order
15. 23-Across plus 31-Across
16. Twice 26-Across
18. 11-Across minus 28-Down
19. Digits of 29-Across rearranged
21. Square of 13-Across
22. Three less than twice 24-Down
24. Last digit is sum of first digits
25. 23-Across times 28-Down
28. One-fourth of 26-Across
30. One-ninth of 31-Across

Solution is on page 89

	1 1	2 7	3 5		4 1	5 1	6 4	
7 6	0	8	4		8 2	8	7	9 3
10 9	1		11 6	12 7	6		13 3	9
14 4	4	15 2		6		16 1	2	0
		17 9	9	5	9	0		
18 6	19 4	9		4		20 4	21 1	22 6
23 6	5		24 3	3	25 8		26 5	2
27 3	2	28 1	1		29 4	30 2	2	5
	31 2	3	4		32 5	6	1	

5
6
78
×78
624
546
6084

2
8
39
×39
351
117
1521

3
5
65
×65
325
390
4225

WHAT'S THE ORDER?

We asked a solver on the street to guess a 4-digit number combination; the solver took four guesses, which appear below. In each try, our solver had at least part of the combination correct, as noted by the symbols next to each guess. An "X" next to the combination stands for a correct digit in its correct place in the combination, and an "O" stands for a correct digit not in its correct place. For example, guess A scored an O and an X, so two of the four digits 1, 5, 9, and 2 appear in the combination — one in the position given (for example, 1 might be the first digit of the combination), and one in a different position (5 might be the first digit). The placement of the symbols does not correspond to any particular place in the combination. Using the four graded guesses, can you deduce the correct combination?

Solution is on page 97.

A.	1 5 9 2	**O X**
B.	3 4 6 8	**X**
C.	5 8 7 2	**O X**
D.	4 1 7 9	**X X**

BAKER'S DOZEN

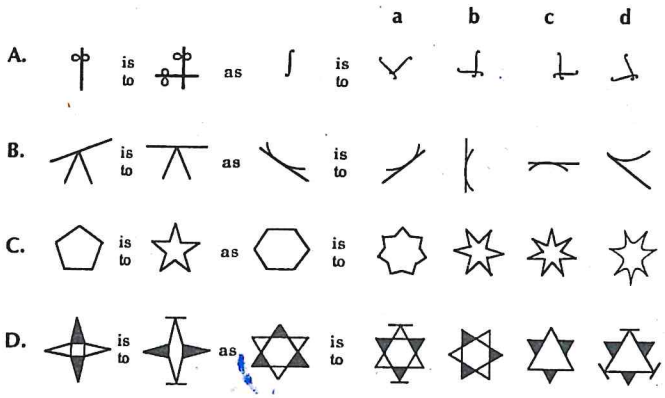
Here's a baker's dozen brain teasers that will really test your wits. Some require math skills, some need deductive reasoning, and most will need a bit of both. If you cook up the correct answers to ten or more, consider yourself a real whiz in the puzzle kitchen!

Answers are on page 97.

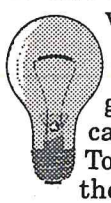
1. If a woodchopper gets 50¢ for cutting a log into two pieces, how much will he get for cutting a log into six pieces?

2. The speaker was so boring that one-half of his audience left after a few minutes. Five minutes later, one-third of the remainder left. Ten minutes later, one-fourth of the remainder left, leaving only nine people in the audience. How many people were in the audience at the beginning of the lecture?

3. Can you pick the correct answer for each "visual equation" below?

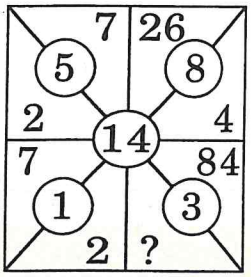


4. The summer beach house you've rented is wonderful; unfortunately, the electricity was not turned on when you arrived! Your wife wants to light the pilot on the gas stove, your daughter wants to light a candle, and you want to light the fireplace. To your family's dismay, you discover that there is only one match in the house. What should you light first?



5. A truck is six feet plus two-thirds of itself long. What is the length of the truck?

6. What number should be substituted for the question mark to complete the number pattern already established in the diagram below?

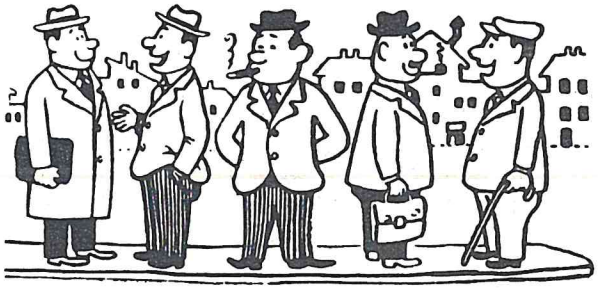


7. Two men were matching for dimes. At the end of their game, the first man had won six times, and the other was ahead by six dimes. How many times had they matched for dimes?

8. Your friend takes four cards: the ace of hearts, king of diamonds, queen of clubs, and jack of spades. He shuffles them and puts them in a stack, then gives you four clues: 1. The suits alternate by color. 2. The heart is not the first or second card. 3. The spade is not the third or fourth card. 4. The king is directly over the queen. Can you determine the order of the cards from top to bottom?

9. In a world chess tournament, 100 players were entered for the world championship. Since all but one had to be eliminated, what is the minimum number of games that had to be played before a winner could be announced?

10. Mr. Broad and Mr. Big are wearing striped pants. Mr. Huge is smoking, while Mr. Right and Mr. Big are non-smokers. Mr. Big is not talking to Mr. Great. Can you identify all the big shots?



11. What is the difference, money-wise, between a half-dozen dozen dollar bills and six dozen dozen dimes?

12. What numbers must A and B represent to make the addition problem below correct?

$$\begin{array}{rcccc} & & & & A \\ & B & B & B & B \\ & B & B & B & B \\ + & B & B & B & B \\ \hline A & B & B & B & B \end{array}$$

13. Al says, "Give me a dollar and we'll both have the same amount." Betty replies, "No, you give me a dollar and I'll have twice as much as you." How much does each have?

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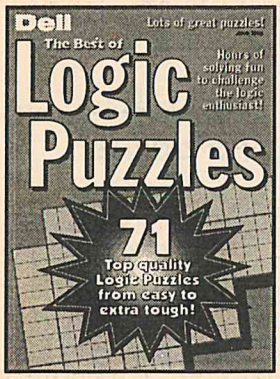

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WORD ARITHMETIC

Directions for solving Word Arithmetic are on page 14. **Solutions are on page 97.**

46.

```
0 1 2 3 4 5 6 7 8 9

          O I L
L I E | O R D E A L
        L I E
        I O F A
        M M E A
          B O F L
          A B E R
            M O A
```

47.

```
0 1 2 3 4 5 6 7 8 9

          L I E
C A L L | P A L A C E
        C A L L
        I F F C C
        L M S I I
          C C S S E
          C F M E E
            C F Y F
```

48.

```
0 1 2 3 4 5 6 7 8 9

          T A G
S E E S | M O S T L Y
        T G G T
        S I Y I L
          L O G A
            O M S Y
            O T E G
              A L
```

49.

```
0 1 2 3 4 5 6 7 8 9

          A R T
N O N | M A R T Y R
        M L R U
          R P U Y
          T R N R
            T L O R
            L Y M Y
              Y L N
```

50.

```
0 1 2 3 4 5 6 7 8 9

          H U N T
H I N D | P A I N T E D
        I E H U
        H H H U T
        H W I E H
          E P P P E
          E I A U D
            H A U P D
            H A W P N
              P T U
```

51.

```
0 1 2 3 4 5 6 7 8 9

          S A N S
L E D | O L D I E S
        S I N
          C I I
          A N I
            A E E
            N O S
              S N S
              S I N
                V C
```

52.

```
0 1 2 3 4 5 6 7 8 9

          L E A
N A T | S T E A L
        E C L
        N U C A
        N C C A
          N I I L
          N I I O
              C
```

53.

```
0 1 2 3 4 5 6 7 8 9

          A R I
B O O | R A N C H
        I C Y
        B B R C
        B E R I
            R A H
            R A H
              E
```

54.

```
0 1 2 3 4 5 6 7 8 9

          O K
I L L | O Z O N E
        R N I M
          I E K E
          I F K O
            E F O
```

LOGIC PROBLEM

16. HOOPS STARS

by RANDALL WHIPKEY

Summerset College's women's basketball coach Dora Dunkett has her eye on the NCAA championship. Her starting five — each from a different high school — have come together to make the Screamin' Eagles into a point-scoring, rebounding, shot-blocking machine. Player Jordan, only a freshman this year, has already been pegged by the press as a favorite for the 1996 Olympic team. From the following clues, put together the starting lineup by name, high school, position played, and height (each is a different height). Note for non-fans: A five player lineup consists of one center, two forwards, and two guards.

1. The center is the tallest player and is 10" taller than the shortest.
2. Neither Robinson nor Wilkins is the recruit from Our Lady of Sorrows.
3. Allison doesn't play guard.
4. The player from Central City High is 1" taller than Bird, who plays forward.
5. Keri is 2" taller than Ewing, who is 4" taller than the Polytechnic grad.
6. Bird and the recruit from Summerset Township H.S., who isn't Hannah, were both high-school All-Americans.
7. Shelley, a guard, is 3" taller than the former star of the Our Lady of Sorrows High School team.
8. Didi, who isn't Robinson, is taller than the Summerset Township player.
9. Hannah is 5'4".
10. The recruit from Wild Lake doesn't play center.

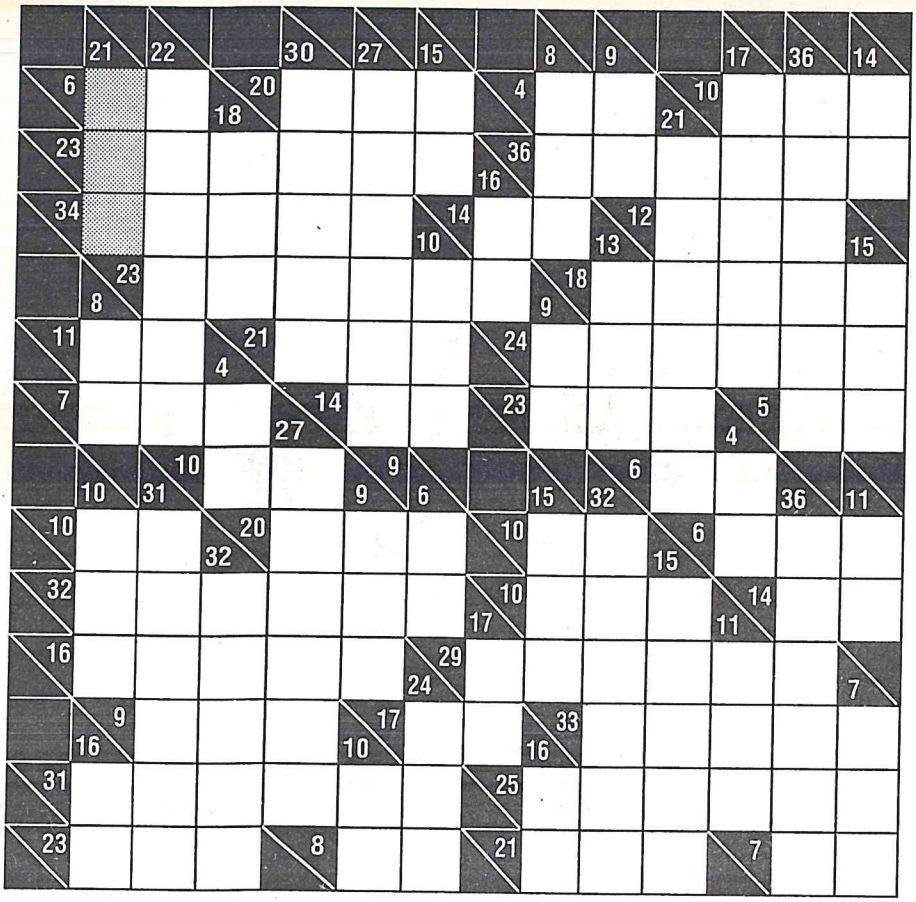
Solution is on page 94.

See page 5 for instructions on using standard charts.

	Bird	Ewing	Jor.	Rob.	Wilk.	ctr.	fwd.	guard	CCH	OLS	Poly.	Sum.	WL
Allison													
Didi													
Hannah													
Keri													
Shelley													
height													
Central City High													
Our Lady of Sor.													
Polytechnic													
Summerset Twp.													
Wild Lake													
center													
forward													
guard													

height					

CROSS SUMS

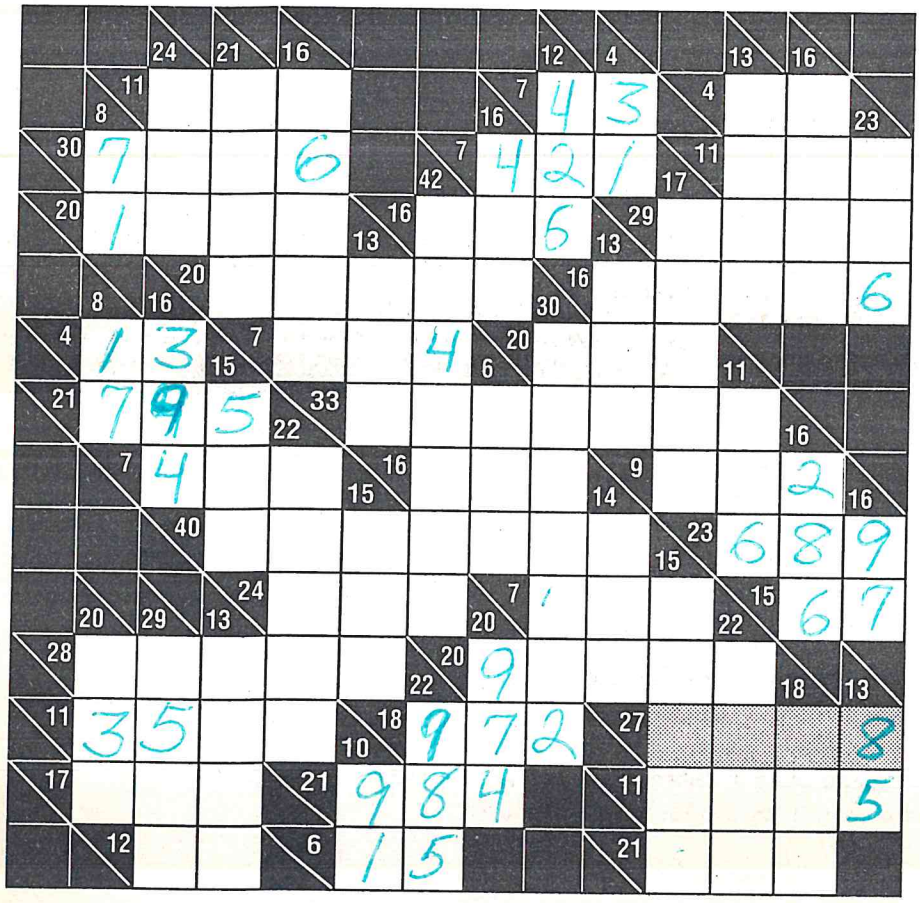


NUMBER 23

If you need help starting a puzzle, the digit combination to go into its shaded area is on page 97.

See page 6 for solving directions.

Solutions are on page 89.



NUMBER 24

Samantha
"Yellow Submarine"
Who's Doing It

FIGURE LOGIC 12

Directions for solving Figure Logics are on page 7.
If you need help starting this puzzle, starting digits are given on page 98.

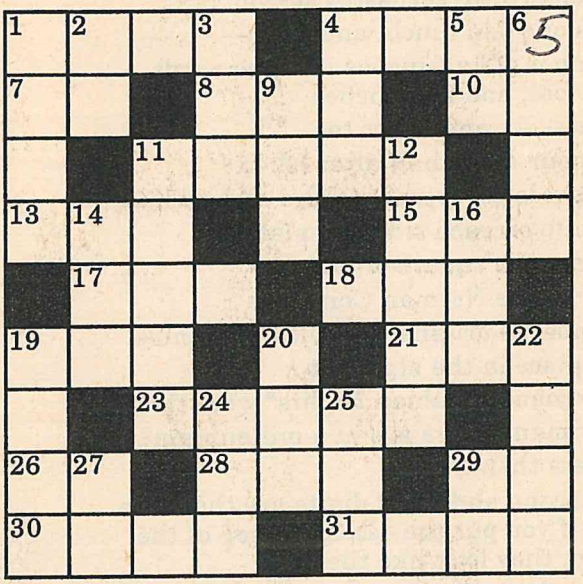
ACROSS

1. Three times 19-Down
4. Five times 13-Across
7. Four more than 5-Down
8. Digits of 4-Down rearranged
10. 14-Down minus 25-Down
11. Four times 30-Across
13. One-seventh of 1-Across
15. 10-Across plus 24-Down
17. Three times 27-Down
18. One more than 19-Across
19. Twice 27-Down
21. Twice 8-Across
23. Same as 12-Down
26. Last two digits of 19-Across
28. One-third of 14-Down
29. Three times 2-Down
31. 1-Down plus 21-Across

DOWN

1. 2-Down times 9-Down
4. 17-Across minus 5-Down
6. Seven times 3-Down
9. Five times 5-Down
11. Square of 19-Across
12. 1-Across plus 11-Across
14. 3-Down plus 19-Across
20. Ten times 2-Down
22. Seven times 24-Down
25. 5 times 18-Across
29. One more than 5-Down

These are all the clues you will need to solve this Figure Logic.



Solution is on page 89

DEDUCTION PROBLEM 2

"THE MARKS BROTHERS — AND SISTERS"

When in school, the Marks brothers and sisters really take their last name seriously by striving for the highest marks they can get. Competition between the siblings is especially fierce since they are quintuplets who take the same classes; often, the top five scores on a test are earned by the five Marksesl Luckily, no one child is far and away the smartest of the five. In fact, on the last report card, the good marks were pretty evenly spread around: the quints received 75, 80, 85, 90, and 95 in Math, English, History, Science, and Health. No two received the same mark in any subject, and none received the same mark twice. From the clues below, can you determine each student's mark in each subject?

Solution is on page 97.

1. Scott's Health mark was the same as Joe's Science and Janice's English marks, but was higher than at least three of his other marks.

2. Jack's English mark was five less than Scott's Science mark, but ten more than Mary's Health mark.

3. Joe's History mark was fifteen points higher than Jack's Math mark.

4. Mary did not do as well in History as she did in Science; her Science mark was the same as Joe's Health mark.

CROSS FIGURE

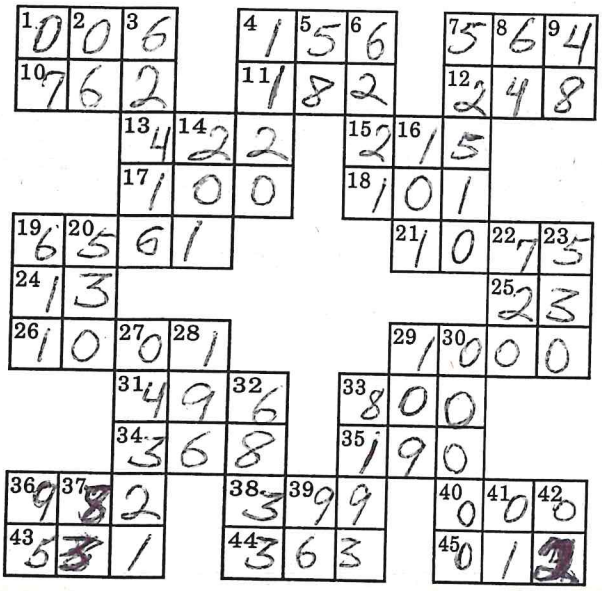
The "definitions" in this puzzle consist of short arithmetic problems, numerical-trivia teasers, number games, and number jokes. Write the digit or digits suggested by each "definition" into the diagram, crossword style.

ACROSS

1. 900 upside-down
4. Number of playing cards in three decks
7. 5/12 of a dozen, then a half of a dozen, and finally a third of a dozen
10. What you get when you omit every other letter in sledveernsstilxatowlo
11. This one had lunch, and that — —, —
12. Number of half-inches in three yards, one foot, and four inches
13. "Tea — —, and — for tea..."
15. An hour and a half after 12:45
17. Drop a letter from tent and add nothing
18. A knife on each side of a plate
19. Square the square of nine
21. Year of the Norman Conquest
24. Number of original American Colonies
25. W's place in the alphabet
26. How many "Arabian Nights" were there?
29. How many years are in a millennium?
31. IV less than D
33. Its second and third digits are the same, and if you put the second on top of the third, they look like the first!
34. July's days plus five, then August's number
35. Ten baseball teams plus twenty basketball teams
36. Reagan's 21st month as President
38. Number of mittenless kittens, then the lives of a cat, and finally the lives of another cat
40. Ideal income-tax payment
43. End of an odd countdown?
44. Three days short of a leap year
45. — hour, — and all, — -by-four

DOWN

1. James Bond, topless?
2. The Class of 19— will hold its 93rd reunion this year
3. Half of twelve, divided by three, times two, divided by four, plus five
4. How many months are in 93 1/3 years?
5. Two, —, —, eleven, fourteen...
6. Sextet, duet, duet, solo
7. Number of seconds in fourteen hours, thirty-five minutes, and ten seconds
8. Two doubled doubled doubled doubled doubled
9. How many stars were on the U.S. Flag in 1948?
14. Five quarters, six dimes, three nickels, and a penny
16. "—nis, any—?"
19. Replace a letter in mix, ore, and ode
20. How many days are in six Aprils, eight Junes, three Decembers, two weeks, and three days?
22. After the first touchdown in yesterday's football game, the score was — — —
23. When many newscasts are aired
27. Unscramble nnoe, oruf, ereth, wot, and noe
28. After deducting 2% of 200, what's left?
29. One plus a gross minus three dozen
30. Any way you look at it, it doesn't amount to anything!
32. If their middle letters are i, g, r, and r, what are the numbers?
33. Its first two digits are the square of its third, which is the square of its fourth
36. An inch less than eight feet
37. Its second digit looks like the right half of its first
39. If you write it upside-down, it looks the same
41. First year of the 20th century, 19—
42. "—, — be in England now that April's there..."



Solution is on page 91

Do cars also ask for Tetra?

NUMBER DECATHLON

Which of the eleven numbers listed will win the Number Decathlon? To find out, try your hand at this variation on our popular Letter Decathlon. During each of the ten events below, one of the numbers will be eliminated. You are to bring only the numbers which remain after any event to the next event, and the events must be run in alphabetical order. At the end of the ten events, one number will remain; that number wins the Decathlon. This is a time test, so be sure to have a watch or clock handy to see how long it takes you to determine the winning letter. Our Distinguished Dell Decathlete finished all ten events and declared a winner in 6 minutes, 10 seconds.

Answer is on page 97.

12 19 6 27 24 14 3 21 18 9 15

EVENT A: First, assign the letter I to 12, C to 19, T to 6, B to 27, E to 24, N to 14, W to 3, A to 21, H to 18, L to 9, and K to 15. Next, add up the values of the letters in the word BLACK and subtract from that the sum of the values of the letters in the word WHITEN. Eliminate the number that results.

EVENT B: Arrange the remaining numbers in order from the smallest to the largest, and eliminate the number that doesn't belong in the group.

EVENT C: Eliminate the number that is equal to ✦ in the following equations:

✦ + ✦ + ✦ + ✶ = 60
✶ + ✶ + ✶ + 18 = 90

EVENT D: Eliminate the number that, when written in the center square, correctly completes the diagram below.

72	9	8
12		4
6	3	2

EVENT E: Eliminate the number that is not the correct answer to any of the arithmetic problems below.

17 + 10 = ____ 3 x 5 = ____
886 – 868 = ____ 63 ÷ 7 = ____
13 + 11 = ____ 3 x 4 x 1/2 = ____

EVENT F: If the sum of the greatest, third-greatest, and fifth-greatest remaining numbers is smaller than the sum of the second-greatest, fourth-greatest, and sixth-greatest remaining numbers, eliminate the fifth-greatest remaining number; otherwise, eliminate the second-greatest remaining number.

EVENT G: Ed had seven apples. He lost one, leaving him with ____. He ate two, then bought fourteen, so then he had ____. His sister next gave him one half as many apples as he had at that time, bringing his total up to ____. Finally, he used a dozen to make applesauce, so then he had ____. Eliminate the number that doesn't fit on any of the blanks above to complete the story correctly.

EVENT H: Eliminate the number that appears second on an alphabetical list of the remaining four numbers.

EVENT I: Add the numbers eliminated in Events A and F, and divide this sum by the number eliminated in B. Multiply this number by the number eliminated in C, and next subtract the number eliminated in E. Multiply this number by the number eliminated in G. Eliminate the number that is the final result of these calculations.

EVENT J: Eliminate the two-digit number.

The remaining number is the winner of the Number Decathlon. Does your winner match ours?

LOGIC PROBLEM

17. WAITING FOR THE BUS

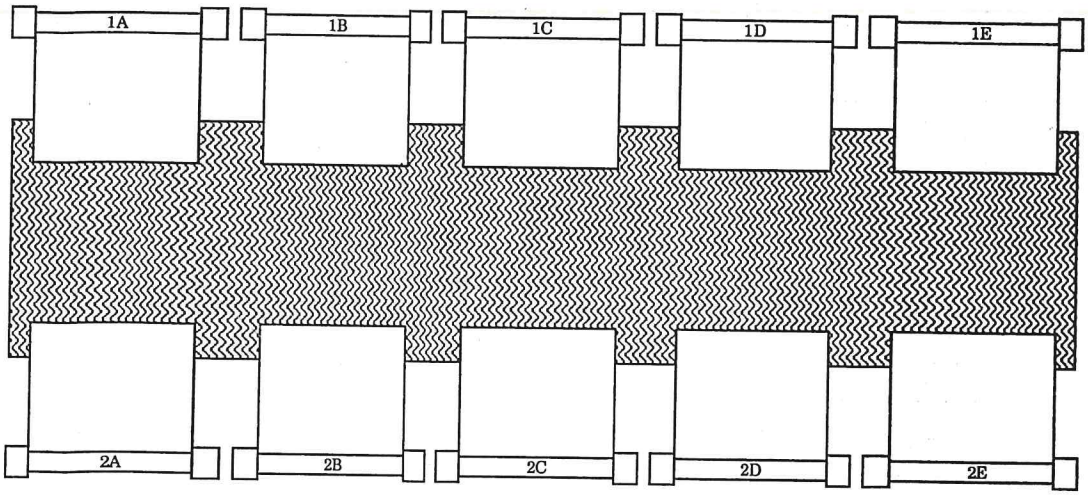
by W. LEE MOSS

Janet, George, and eight other people are sitting in a bus depot in Salina, Kansas. Some are traveling alone, others are traveling together and thus are sitting in consecutive seats of the same row; those who are together are related in some way. From the clues below, can you determine the seating arrangement of the travelers, along with each traveler's full name, destination, and reason for going there?

1. Martha is sitting between Mrs. Turner and Laura Vine and is directly facing the man who is taking his new bride to New York City for their honeymoon.
2. Sandy and Mandy, twin sisters, are traveling with one of their parents; Sandy is directly facing Mr. Martin and Mandy is directly facing Peter (who is not going to Denver). Those two men are traveling alone; one is going to Los Angeles.
3. Jake, who sits in seat 1C, is going on vacation; his last name is not Goldblum. Exactly two related persons are going to Pittsburgh.
4. Jerry is sitting between a woman whose last name is Douglas and the man who is going to Miami and is directly facing a woman who, together with a relative, is going off to college.
5. One man is going to Denver; another man is moving to a new home.
6. Florence is not going to Kansas City.
7. Two grown, unmarried sisters are traveling together; they are not the ones who are leaving Salina and returning to their home town.
8. Mr. Morrison is sitting on the immediate right-hand side of the man who is departing on business to another city.

Solution is on page 94.

Use the illustration of the seating arrangement below to enter information about each traveler as you determine it.



LOGIC PROBLEM

18. TAMING THE TRAFFIC

by DIANE BALDWIN

Forestville has gone from a sleepy little town to a potential mini-metropolis, and the traffic commission wants to keep things under control. So they drew up a list of five proposals for traffic-control projects on Apple Street and four other major thoroughfares; one proposal called for a stop sign. Each project was necessitated by the presence of a public building, including a school, where traffic converged. All five proposals passed unanimously, and last week the public-works department swung into high gear, completing each of the projects on a different day (Monday through Friday), though not necessarily in the order they'd been proposed. From the clues given, can you tell each day's project, its location by street and building served, and which lettered proposal it was on the list?

1. Proposals A, B, and C, were, in no particular order: the crosswalk, the project by the bank, and the one on Elm Street.
2. The flashing light was installed the day before the project by the library and the day after the one on Oak Street.
3. Proposal C was completed the day after the project on Cherry Street.
4. These three projects were completed consecutively and in this order: proposal C, the one by the hospital, and the stoplight installation.
5. The project by the post office was finished the same number of days before Wednesday as the one on Maple was after Wednesday.
6. The five proposals were: proposal B, the one completed Tuesday, the one by the hospital, the one on Oak, and the stoplight.
7. Proposal E, which wasn't the one by the post office, was completed the day before the yield sign went up.

Solution is on page 94.

See page 5 for instructions on using standard charts.

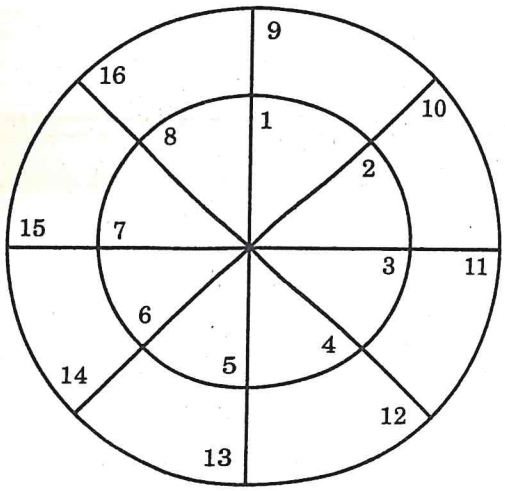
	cross.	flash.	stop light	stop sign	yield	Apple	Cherry	Elm	Maple	Oak	bank	hosp.	lib.	post off.	sch.	A	B	C	D	E
Monday																				
Tuesday																				
Wednesday																				
Thursday																				
Friday																				
A																				
B																				
C																				
D																				
E																				
bank																				
hospital																				
library																				
post office																				
school																				
Apple																				
Cherry																				
Elm																				
Maple																				
Oak																				

Dolorna
"I'm Too Sexy"
No Mas Cerveza!
R & B Record

OUT AND AROUND

To solve this number puzzle, fill in the diagram by answering the clues given below. In some instances, you will find that answering the clues requires some deduction and that it will be necessary to work back and forth among the clues in order to solve.

The answer to each OUTWARD clue is a 2-digit number to be entered reading outward from the center of the circle. Each space in the diagram contains only one digit. For example, if the answer to OUTWARD clue 1 – 9 were 35, you would enter a 3 in the space marked "1" and a 5 in the space marked "9." The answer to each CLOCKWISE clue is a 3-digit number to be entered in a clockwise direction. For example, if the answer to CLOCKWISE clue 1 – 3 were 456, you would enter a 4 in the space marked "1," a 5 in the space marked "2," and a 6 in the space marked "3." Note that CLOCKWISE answers overlap. For instance, the last digit of the answer to clue 1 – 3 is the first digit of the answer to clue 3 – 5. NOTE: No zeroes are used in this puzzle.



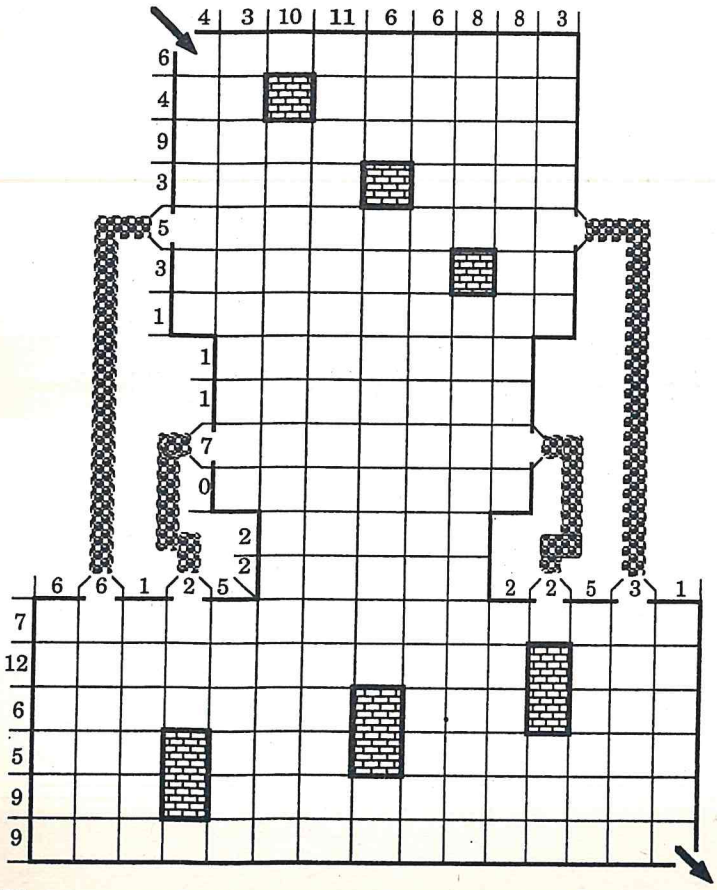
Solution is on page 91

OUTWARD

1 – 9. The greatest common divisor of CLOCKWISE 1 – 3 and OUTWARD clue 4 – 12
2 – 10. A perfect square
3 – 11. A perfect square
4 – 12. The first digit is twice the second
5 – 13. A perfect square
6 – 14. Other clues will determine this number
7 – 15. A number evenly divisible by 7
8 – 16. A number evenly divisible by 9

CLOCKWISE

1 – 3. Three consecutive digits in some order
3 – 5. The third digit is twice the first digit and the second digit is twice the third
5 – 7. Three consecutive digits in some order
7 – 1. Other clues will determine this number
9 – 11. Other clues will determine this number
11 – 13. The third digit is the sum of the first and second
13 – 15. Three different digits such that the first is evenly divisible by the second and the second is evenly divisible by the third
15 – 9. Three consecutive digits in some order



MATH MAZE 2

Here's a special Math Maze in which you may travel through the tubes from one area of the maze to another without crossing through any squares. You may use as many of the tubes as you wish in solving (or none at all). Tubes are one-way, but you may choose which one direction each goes. Do not cross through brick walls in any direction.

General directions for solving are on page 32.

WARNING: This Math Maze is tough! We suggest you solve Math Maze 1 first as a warm-up.

Solution is on page 90.

WORD ARITHMETIC

Directions for solving Word Arithmetic are on page 14.

Solutions are on page 97.

55.

```
0 1 2 3 4 5 6 7 8 9
          B R I E
SUB | B U I L D E R
      E E E B
        R U R D
        B D I U
          R S U E
          R D H I
            E A R R
            D B L H
              E D R
```

56.

```
0 1 2 3 4 5 6 7 8 9
          B A L E S
BED | T A B L E A U
      M T E
      U E I L
      U T L I
        U S D E
          E A T
          B L U A
          B L U B
              I U
```

57.

```
0 1 2 3 4 5 6 7 8 9
          S U M
SUE | M I N C E S
      M O J E
        Y C C E
        Y M U E
          Y O E S
          O I E E
            M E S
```

58.

```
0 1 2 3 4 5 6 7 8 9
          H E N
DIG | L E N D E R
      L L I G
        O A D E
        O N L G
          L O E R
          O R G G
            L E R
```

59.

```
0 1 2 3 4 5 6 7 8 9
          P E R
GIN | E R R O R S
      E V O G
        V G G R
        V P R I
          P E P S
          P F G R
            V O P
```

60.

```
0 1 2 3 4 5 6 7 8 9
          A R E
SATE | O W N E R S
      S A T E
        T H O N R
        T R E N N
          U U N R S
          U N S T E
            T R T A
```

61.

```
0 1 2 3 4 5 6 7 8 9
          A N N
ROB | A B A T E D
      R O B
        O U T E
        O F D B
          O O E D
          O F D B
            A U D
```

62.

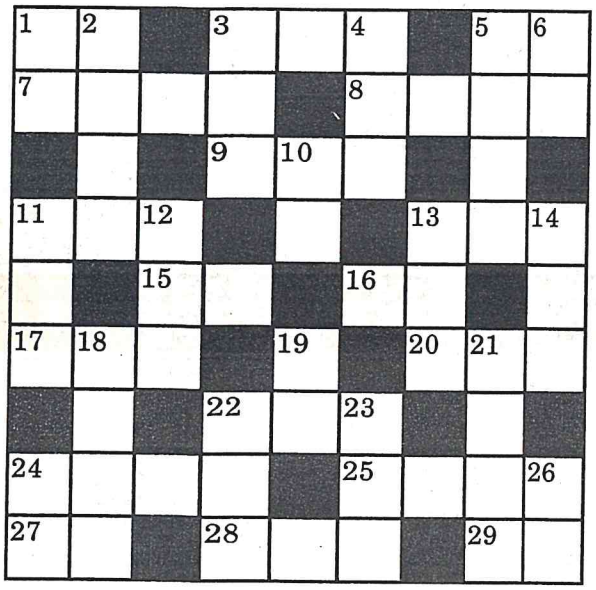
```
0 1 2 3 4 5 6 7 8 9
          B Y
HOB | C O B L E
      C B I W
        T L B E
        T E Y O
          T C B
```

63.

```
0 1 2 3 4 5 6 7 8 9
          I N
CUFF | S Q U A W
      A C U Q
        I W Q A W
        I F I K Q
          U N I W
```

FIGURE LOGIC 13

Directions for solving Figure Logics are on page 7.
If you need help starting this puzzle, starting digits are given on page 98.



ACROSS

1. 5-Across plus 15-Across
3. 13-Across minus 20-Across
5. Twice 15-Across
7. Sum of digits is twenty
8. 1-Across times 16-Across
9. 15-Across plus 13-Down
11. 3-Across plus 16-Across
13. Four less than 23-Down
15. Consecutive digits in descending order
16. Twice 6-Down
17. Seven times 15-Across
20. Digits of 11-Down rearranged
22. Three times 26-Down
24. 7-Across plus 25-Across
25. Square of 27-Across
27. One more than 5-Across
28. 9-Across minus 16-Across
29. Ten more than 15-Across

DOWN

The sum of the digits in each answer is 10; there are no zeros in the solution.

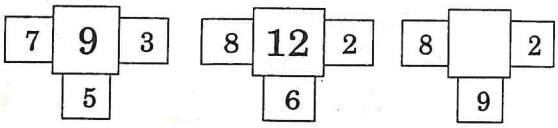
Solution is on page 89

MATHEMATICAL DEDUCTION

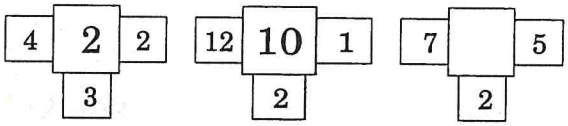
Each of the puzzles below consists of two completed sets and one uncompleted set. To solve, use math and deductive reasoning to figure out the mathematical sequence used to arrive at the numbers in the center boxes of the two complete sets, and so discover what number belongs in the blank box of the third. Each puzzle has a sequence which is carried through for all three sets. You might use addition, subtraction, multiplication, or division. No fractions or negative numbers are involved, and each number surrounding its center box will be used exactly once.

Answers are on page 98.

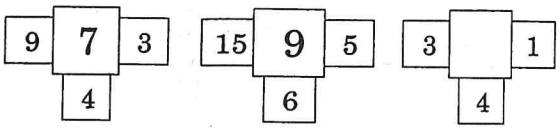
1.



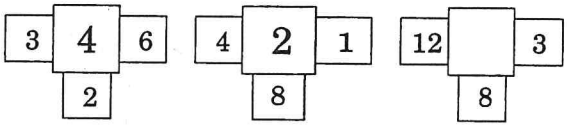
2.



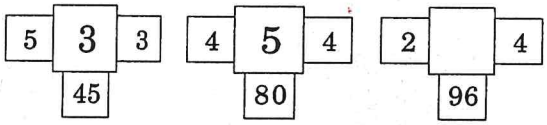
3.



4.



5.

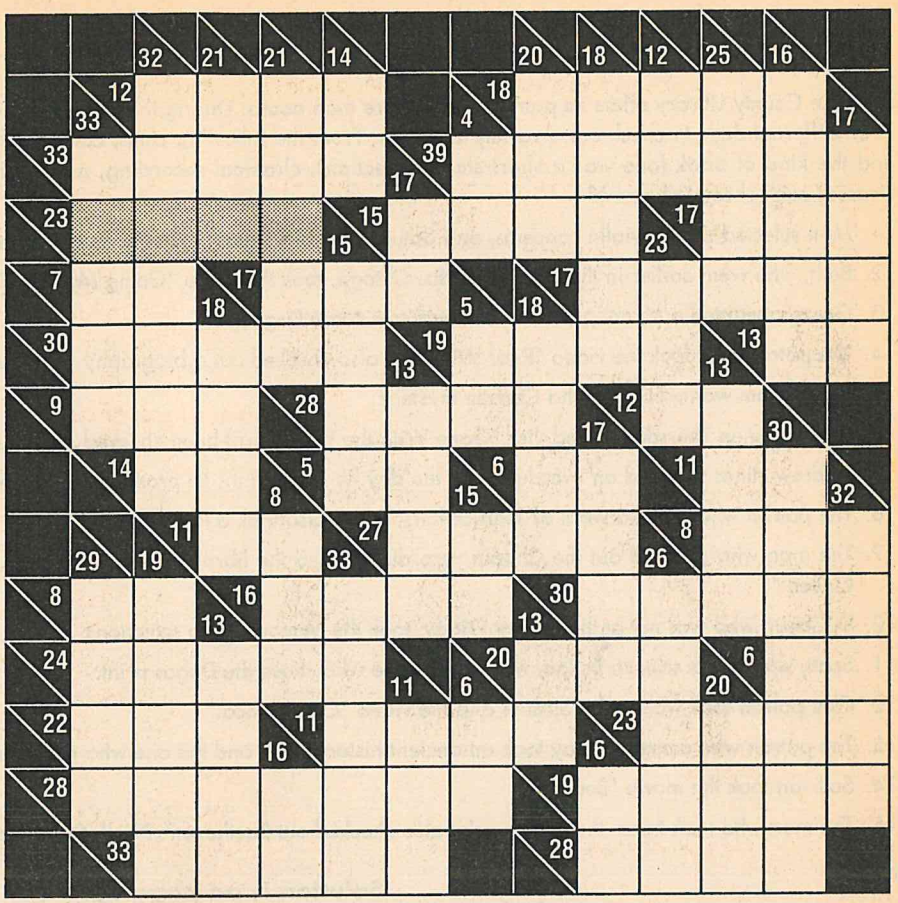


CROSS SUMS

NUMBER 25

If you need help starting a puzzle, the digit combination to go into its shaded area is on page 97.

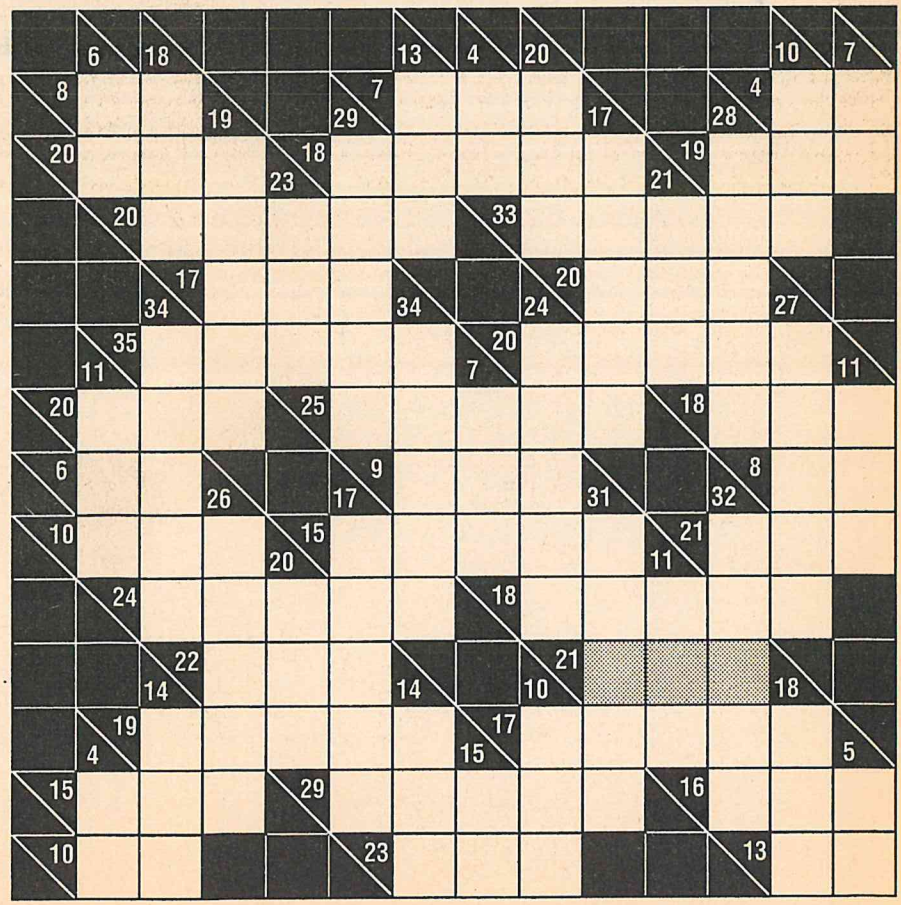
Carrie Nielsen
"Grease"
What Is This Year?
R & G Records



See page 6 for solving directions.

Solutions are on page 89.

NUMBER 26



LOGIC PROBLEM

19. CHECK-OUT TIME

by SUSAN ZIVICH

The Lake County Library offers its patrons much more than books. During the last week (Monday through Saturday), six people came in on different days to check out a variety of things. From the following clues, can you determine each day's borrower by full name and the kind of book (one was a short-story collection), classical recording, movie on video, and art reproduction (one was a Picasso) each chose to borrow?

1. Matt selected a Bach violin concerto, and Saturday's library-goer chose a recording of Vivaldi's "Four Seasons."
2. Beth, who went earlier in the week than Ms. Ortega, took the video "Going My Way."
3. Georgia wanted a Monet print and Burrows selected a Degas.
4. The patron who took the video "Rear Window" also checked out a biography of Alfred Hitchcock.
5. Rosenbaum wanted an Agatha Christie mystery.
6. Lucy came on Thursday to find that "Gone With the Wind" had been checked out the day before, so she chose another movie.
7. Andrew Hines returned an overdue book the day he stopped in; he promised to be on time with his new selections.
8. The patron who chose a work of 19th-century fiction also took a Renoir print.
9. The man who checked out the Chopin recording visited the library the day after the man who took the video of "The African Queen."
10. DeCoeur, who was not at the library Friday, took the Mozart opera selections.
11. Scott, who reads science-fiction, was not the one who chose the Degas print.
12. One patron took waltzes by Strauss and the video "Casablanca."
13. The patron who came Monday took an ancient history book and the one who came Tuesday chose a Chagall reproduction.
14. Sullivan took the movie "Ben-Hur."
15. The man who took home the Wyeth print also checked out Beethoven's Ninth Symphony.

Solution is on page 95.

This problem contains so many variables that a standard chart would not be readable. Instead, please use the space below for solving.

BINGO PLAYS 2

Here's a puzzle that doesn't require math skills, even though it's all numbers. You are trying to fill your "card" with numbers and make a winning Bingo game. Just as in Bingo, each column has limits set for the numbers that can be placed in that column, as shown at the top of the card. For example, in column B, every square will have a number between 1 and 15 inclusive; in column N, every number will be between 31 and 45 inclusive. Use the given clues to eliminate possibilities within those limits until you can enter one final number in each square. A number will appear only once in any row or column. The "free" space in the center of the card is just that; you need not enter a number in that square. After you have filled in your card, find the Bingo winning combination: Just as in Bingo, the five numbers in one row, column, or diagonal will fit the clues given. Circle these numbers and you have won the game!

Solution is on page 89.

	B 1-15	I 16-30	N 31-45	G 46-60	O 61-75	
P						P
L						L
A			FREE			A
Y						Y
S						S
	B	I	N	G	O	

1. The number one does not appear in row S, column G, square PB, PN, LB, AI, AO, YI, YN or YO, or in the winning combination.
2. The number two does not appear in square PI, PG, PO, LI, LO, AB, YB, YN or SO.
3. The number three does not appear in row L or S, column B, I or G, or square PN or YO.
4. The number four does not appear in row Y, or square LB, LG, LO, AG, AO or SG.
5. The number five does not appear in row P or L, column B, I or N or O, or in the winning combination.
6. The number six does not appear in row A or Y, column B or I, or square PG or SG.
7. The number seven does not appear in row L, column B, I or N, or square PO, AG, YG or SO.
8. The number eight does not appear in row L, A or S, or column N, G or O.
9. The number nine does not appear in row P, A, Y or S, or column B or O.
10. Zero does not appear in row P, column B or O, or square AG or SI.
11. The number 33 is the only double number combination on the card.

FUN SETTEE

From Hedda, to all five employees:

We will hold a staff meeting in my office tomorrow morning. Bring pen (either the squirting type or one that uses disappearing ink) and paper (either fake parchment or a money pad) and obey the following rules:

1. If you take notes on a money pad, you may not wear a beanie.
2. If you use a squirting pen, you may not use fake parchment paper.
3. If you use disappearing ink or wear a clown nose, don't sit on the left end of the couch.
4. If the person who sits on the far right end of the couch doesn't wear a beanie, then no one may.
5. If you wear a clown nose, you may not use disappearing ink.

Do everything right and you'll get a piece of sponge cake!

As you might expect, the Fun Novelty Company holds rather — er, *zany* staff meetings. Need proof? Just read the memo (pictured to the left) that President Hedda DeClasse sent to her employees last Monday. At the meeting on Tuesday, Wayne Dwopp and his four coworkers lined up on Hedda's couch. Penny Weiss noted the following:

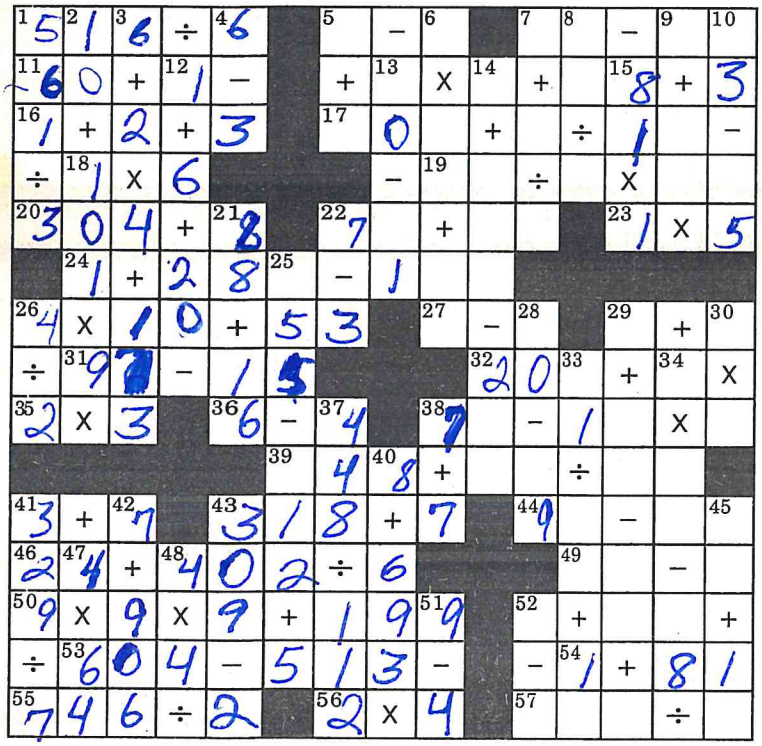
6. Stan Doff was not the only person wearing a clown nose.
7. Warren Pease didn't want to mess up his hair with a propeller beanie.
8. Ima Plummer turned to the left side of the couch and spun the propeller on the beanie worn by the woman next to her. When Ima turned to the right side of the couch, however, the person next to her squirted her with a pen.

Since everybody got a piece of sponge cake (made from real sponges, of course), can you determine where the five staffers sat, and what items each brought to the meeting?

Answer is on page 98.

CROSSMATH 2

This looks like a crossword, but it involves numbers, not words. The numbers given in the clues columns are the answers to simple math problems; the numbers you enter into the diagram will form the problems which result in those answers. All the arithmetic symbols (+, -, x, ÷) have already been entered into the appropriate squares in the diagram. Use the symbols, the crossing numbers, and a bit of logic to determine the digit to enter into each blank square (one digit per square). An important thing to remember: The arithmetic is to be done in the order in which it reads, from left to right or top to bottom — for example, 1 + 2 x 3 equals 9 (1 + 2 = 3; 3 x 3 = 9). If done in any other order, your solution won't work. Arithmetic signs at the beginning or end of a problem (as in 18-Across) should be ignored. You will never use zero as the first digit of a number, though there may be zeroes used as later digits. There are no negative numbers used here; nor are there any fractions used.



Solution is on page 91

ACROSS

1. 86
5. 6
7. 27
11. 61
13. 100
16. 6
17. 41
18. 6
19. 144
20. 312
22. 125
23. 5
24. 92
26. 93
27. 2
29. 13
31. 82
32. 210
35. 6
36. 2
38. 63
39. 41
41. 10
43. 325
44. 59
46. 71
49. 28
50. 928
52. 55
53. 91
54. 82
55. 373
56. 8
57. 63

DOWN

1. 187
2. 999
3. 205
4. 3
5. 15
6. 395
7. 7
8. 8
9. 56
10. 68
12. 27
13. 39
14. 363
15. 81
21. 104
22. 4
25. 148
26. 2
28. 1
29. 27
30. 12
33. 19
34. 34
37. 4
38. 14
40. 701
41. 47
42. 913
43. 307
45. 45
47. 256
48. 16
51. 5
52. 2

DEDUCTION PROBLEM 3

When Mrs. Gold was away on a business trip, she would call home every night to talk to her family. One night she called very late, and her five children were already asleep. Her husband, however, had taped a message from the children and played it to her over the phone. "I told them not to bother you with their complaints," he laughed, "but they got them in anyhow!"

Each child had created one verse of the poem to the right. Can you determine which child recorded each verse (one daughter is Ann) and the age of each child (all five are two years apart from age five to thirteen).

Answer is on page 97.

1: Hi there, Mama,
I sure do miss you!
This is your daughter,
But not sister Sue.

2: I don't want you to worry
(By the way, this is Lee),
But an older sister
Is picking on me!

3: I've been a good girl, Mom,
Much better than Trish
Or the nine-year-old sister
Who broke your good dish.

4: Mom, I have a question
About your sons John and Lee —
Can they boss me around
Just 'cause they're older than me?

5: Hey, Mom! Did you know
You did not make it clear
That since I'm the oldest
I should be boss around here?

LOGIC PROBLEM

CHALLENGER

20. GOING, GOING, GONE!

by Robert Nelson

Colonel Conklin conducts monthly auctions of antiques and collectibles. At one such auction, five men who collect antique woodworking tools found only five such tools among the lots being offered. After some bidding competition between them, each took one tool home. From the following clues, identify each man's full name, the tool he bought, and the price he paid for it.

1. The five spent a total of $500, but no two men spent within $15 of the same amount and none spent $200 or more.
2. The cost of Hal's tool, which was not the howell, equalled what Mr. Schaffer, who was not Sam, paid plus the cost of the purfling.
3. The two men with the same first initial have different last initials.
4. The cost of the howell, which was not bought by Mr. Shaw, equalled the cost of Roy's tool plus Mr. Prucha's.
5. The combined costs of Mr. Pickins' and Ray's tools equalled the combined costs of Charlie's tool and the froe; the fifth man's tool cost more than two of those and less than the other two.
6. The cost of the tool bought by Mr. Shaw, who was not Hal, equalled the cost of the croze plus Sam's tool's cost.
7. Mr. Parsons bought neither the twybill nor the $80 tool; his tool cost more than one of those and less than the other.
8. All tools sold for multiples of $5.

Solution is on page 95.

Use the space below for solving.

FIGURE LOGIC 14

Directions for solving Figure Logics are on page 7. This puzzle is a cube—so instead of entering numbers in two directions, you will enter numbers in three directions. Direction A goes down and to the left, Direction B goes down and to the right, and Direction C goes across. If you need it, a starting help is on page 98.

DIRECTION A

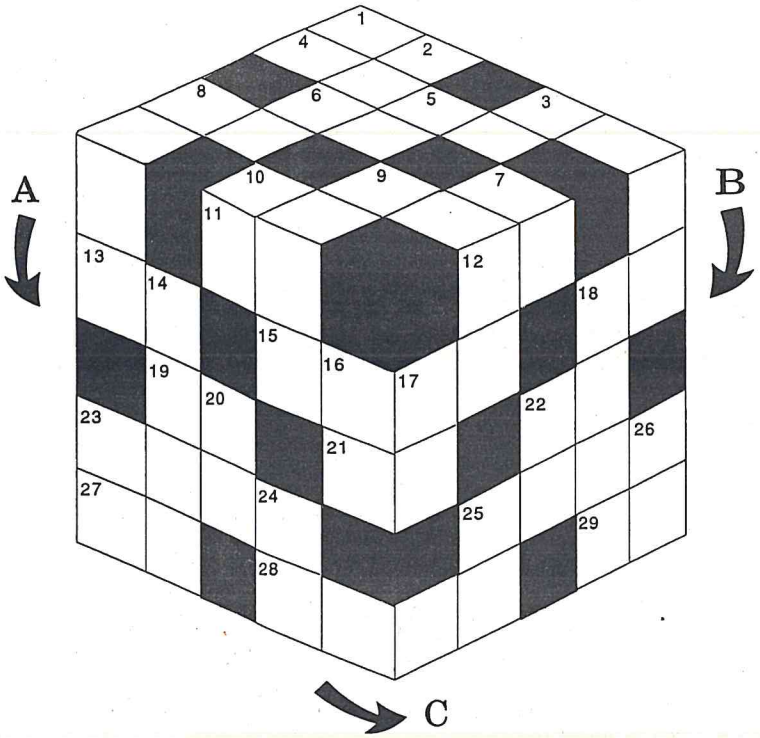
1. 6-B plus 25-B
2. 1-A times 17-B
3. Number halfway between 1-B and 10-A
5. 7-B plus 18-C
7. One more than 10-B
8. Number halfway between 4-B and 25-C
9. Square of 10-B
10. Four more than 7-B
14. 3-B minus 8-A
16. Number halfway between 18-C and 26-B
20. 5-A minus 26-B
23. Number halfway between 1-B and 20-A
24. 10-A minus 8-B

DIRECTION B

1. 6-B plus 24-A
3. 9-B plus 25-C
4. The sum of its digits equals 26-B
6. Number halfway between 3-A and 24-A
7. 17-B plus 29-C
8. Number halfway between 11-C and 21-C
9. Square of 7-A
10. 1-A minus 16-A
17. 1-B minus 20-A
18. Number halfway between 14-A and 27-C
22. Number halfway between 3-A and 23-A
25. Five more than 24-A
26. An odd number

DIRECTION C

11. 20-A minus 18-C
12. Number halfway between 3-A and 29-C
13. 22-C minus half of 17-B
15. Square of 1-A
18. 27-C minus 16-A
19. 29-C minus 8-B
21. One-third of 1-A
22. Number halfway between 10-A and 23-A
23. 8-A plus three times 2-A
25. Square of 29-C
27. 17-B plus 25-B
28. 8-B times 20-A
29. Sum of the twelve digits in 9-A, 9-B, and 15-C



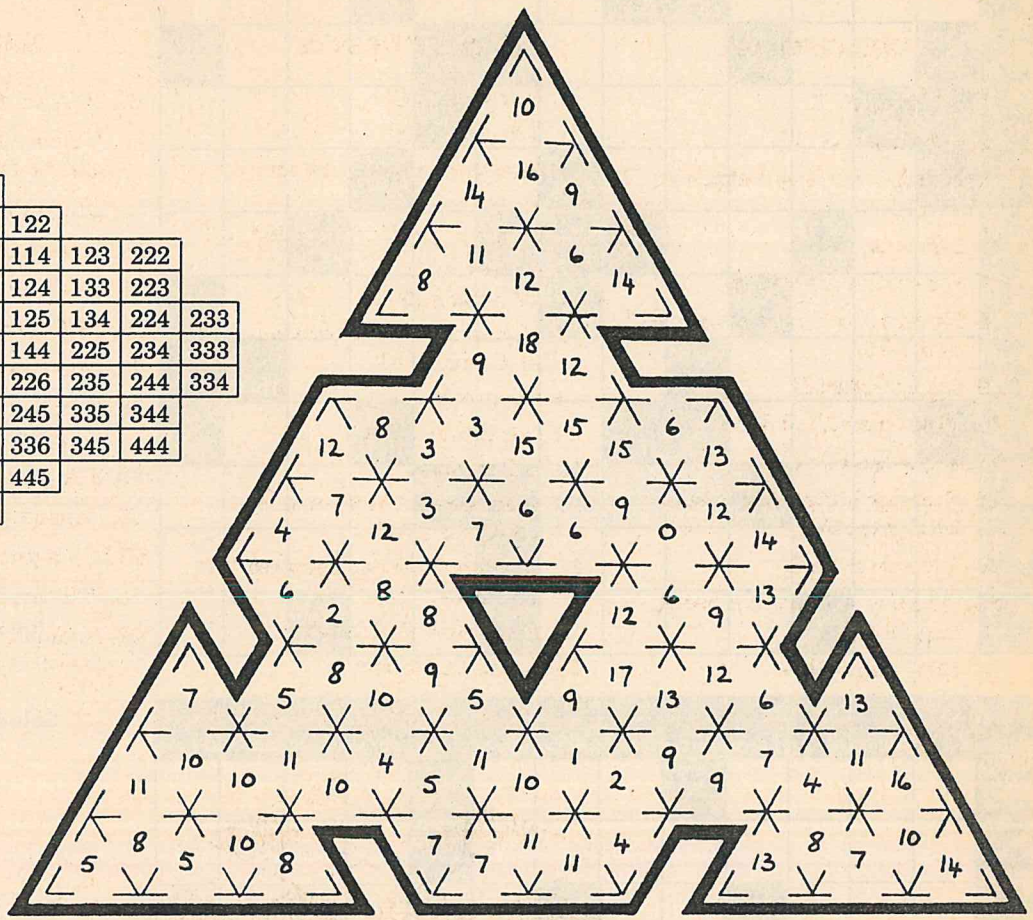
Solution is on page 90

TRIGONS

Trigons is a brain teaser that will test your powers of logic and deduction. The diagram is made up of a series of open triangles with a number in the center; that number represents the sum of the digits you are to write into the spaces on the sides of the triangles. Where two triangles share a side, they share the number to be written into that side. When a triangle shares only one side with another triangle, the two noncontact sides of that triangle will share the same number. All the combinations use only the digits 0 through 6. We've listed all the possible combinations for every sum in the small chart, so all you have to do is figure out where each of those combinations belongs (not as easy as it sounds!). The numbers in a combination can go in any order around their triangle, and each combination will be used exactly once. You can begin by filling in 0-0-0 around the triangle with 0 at its center and 6-6-6 around the triangle with 18 at its center. It helps to look for large sums adjacent to small sums, as they will have fewer possibilities for common digits.

Solution is on page 91.

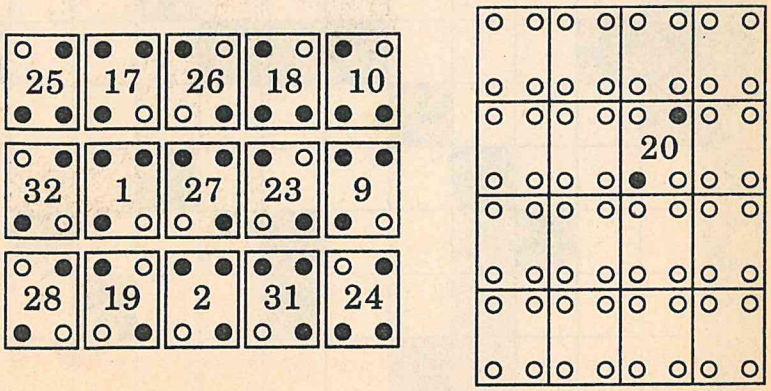
0	000						
1	001						
2	002	011					
3	003	012	111				
4	004	013	022	112			
5	005	014	023	113	122		
6	006	015	024	033	114	123	222
7	016	025	034	115	124	133	223
8	026	035	044	116	125	134	224	233
9	036	045	126	135	144	225	234	333
10	046	055	136	145	226	235	244	334
11	056	146	155	236	245	335	344	
12	066	156	246	255	336	345	444	
13	166	256	346	355	445			
14	266	356	446	455				
15	366	456	555					
16	466	556						
17	566							
18	666							



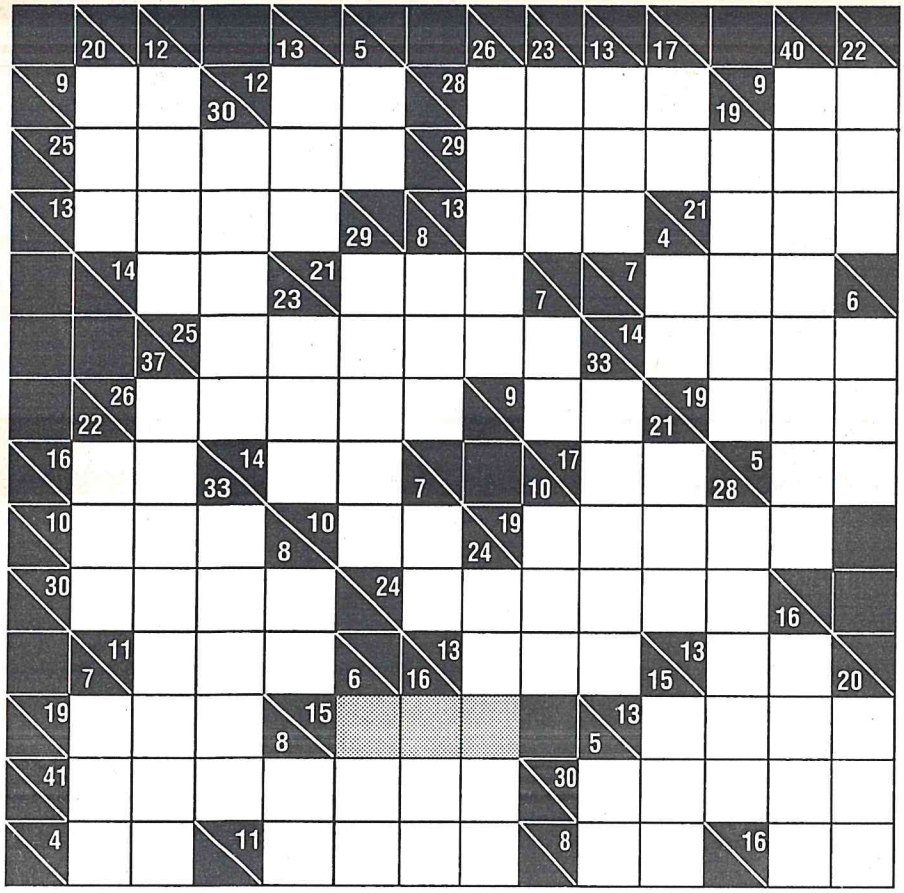
SUMSPOTS

The idea of Sumspots is to form a magic number square, in which the sums of the numbers in each row, column, four center boxes, and diagonals are the same, by placing numbered tiles into the squares of the diagram. In this puzzle, the sum is 78. Use each tile once and only once. HANDICAP: Each tile has a black or white dot in each corner. As a tile is placed next to another tile in the diagram, the dot patterns must match, black dots next to black dots and white dots next to white dots. These patterns must match on every side that touches another tile. For example, the 1 tile could go to the left of the 27 tile, since the 1 tile has a black dot in its upper-right corner and the 27 tile has a black dot in its upper-left corner. However, the 1 tile could not go to the left of the 25 tile, since their black and white dots would not match. As you place each tile in the diagram, blacken in the appropriate dots in all corners. It is a good idea to cross off each tile as you use it.

Solution is on page 91.



CROSS SUMS

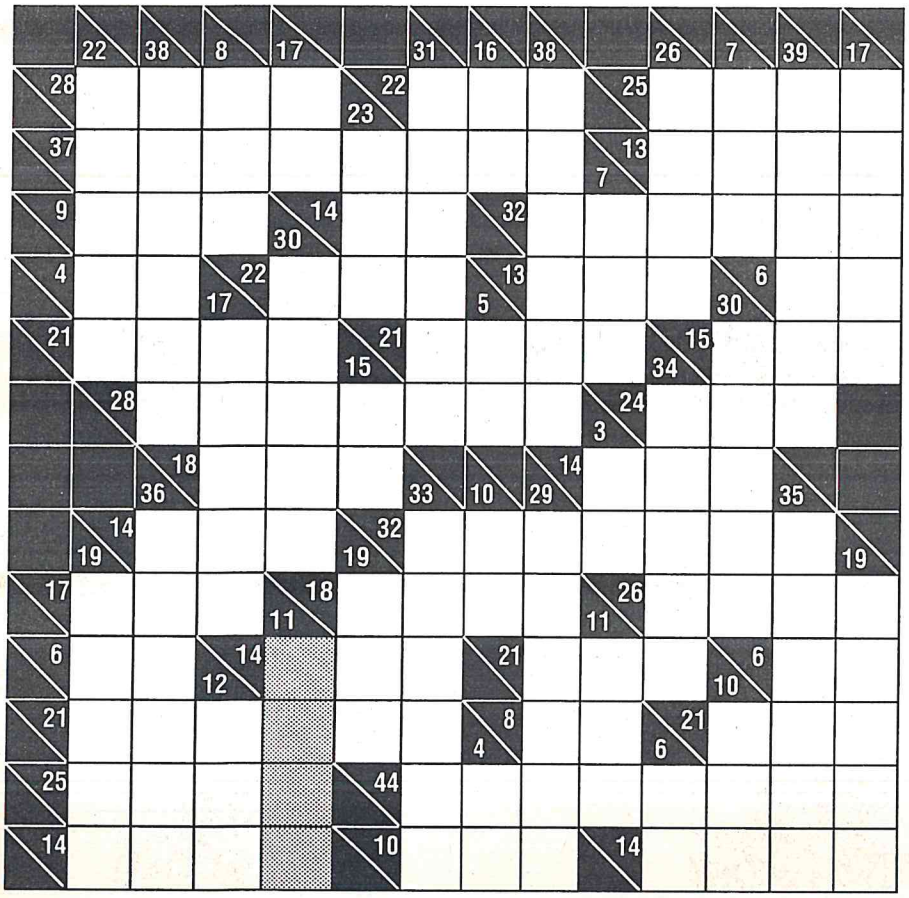


NUMBER 27

If you need help starting a puzzle, the digit combination to go into its shaded area is on page 97.

See page 6 for solving directions.

Solutions are on page 89.

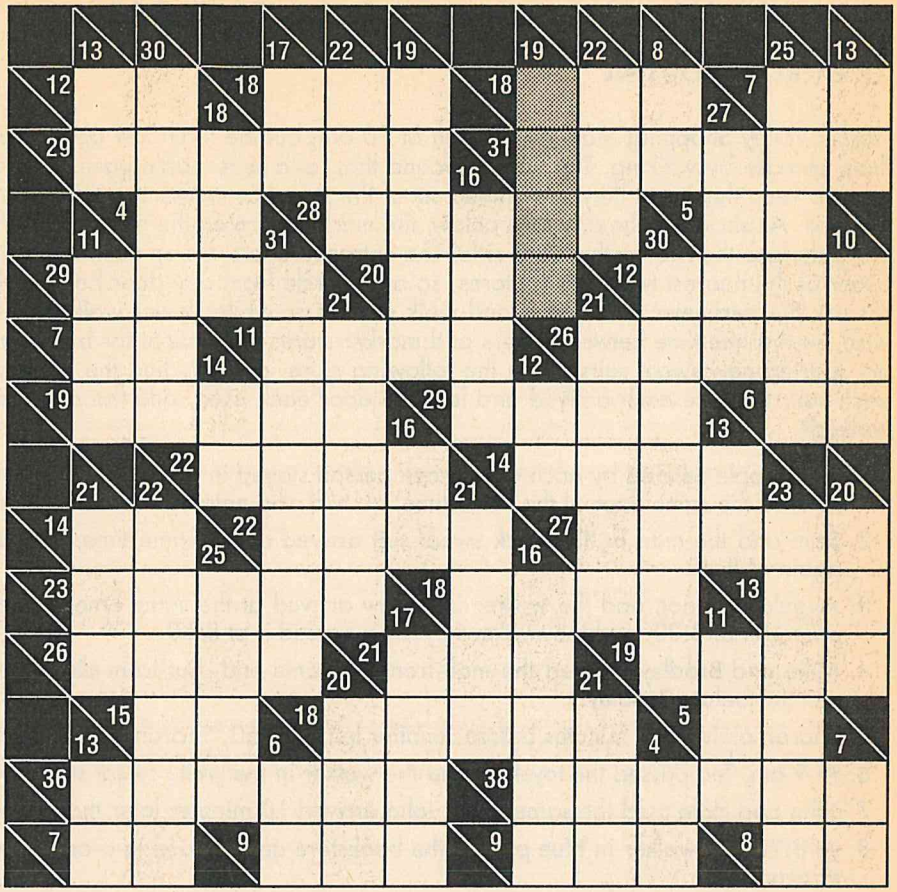


NUMBER 28

CROSS SUMS

NUMBER 29

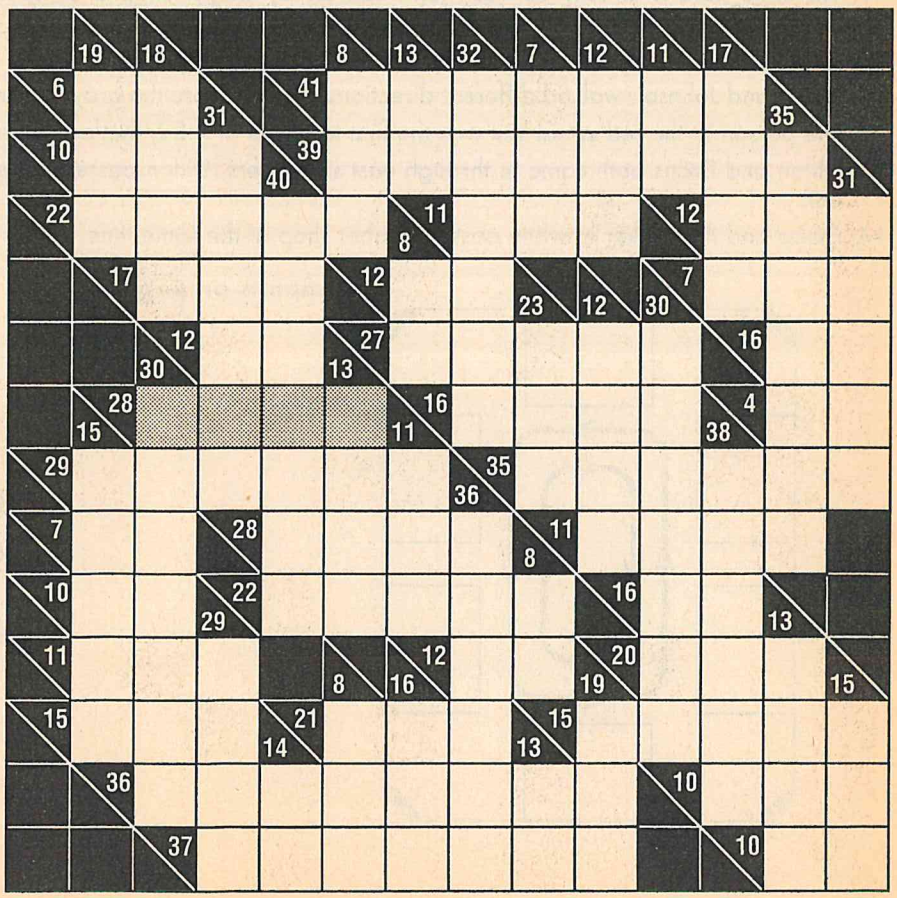
If you need help starting a puzzle, the digit combination to go into its shaded area is on page 97.



See page 6 for solving directions.

Solutions are on page 89.

NUMBER 30



LOGIC PROBLEM

CHALLENGER

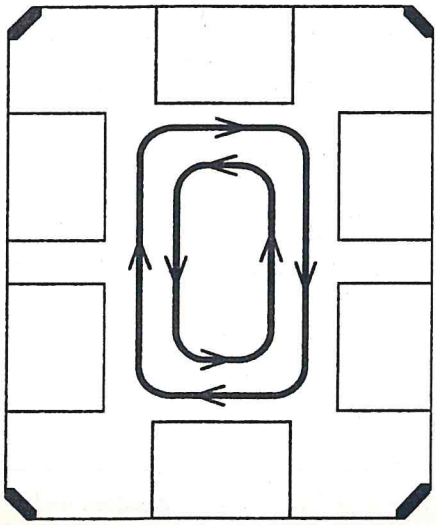
21. EXERCISE ROUTINE

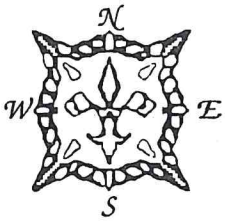
by Mary A. Powell

Happy Valley Shopping Mall stores open at 10 am, but the mall now opens from 7:30 to 9:30 am for people who get their exercise by walking. The walkers found that, at a reasonable pace, they can make it around the mall in 30 minutes. To keep this pace, they designated six of the stores as markers; it takes 5 minutes to get from one of these stores to the next. As shown in the diagram below, the marker store on the north end faces the one on the south end; the two on one side face the two on the other side. The entrance doors are on each corner; it takes 3 minutes to get from a door to either of the nearest two marker stores, so a full circle from any door back to that door takes 31 minutes. Faster walkers use the perimeter of the mall and walk clockwise, while slower walkers use a smaller circle and go counterclockwise, so that the time between doors and marker stores is identical for both groups. Last Monday morning, eight walkers sported new sweat suits. From the following clues, can you find the full names of these eight walkers, the color of each suit, the time each arrived and left, the door each used, and the direction (clockwise or counterclockwise) each walked?

1. Two people entered by each door; each person stayed in the same circle and left 61 minutes after entering. No two entered the same door at the same time; no two who entered the same door walked the same direction.
2. Sam and the man in the black sweat suit arrived at the same time; they both passed the shoe store at 8:10 and again at 8:40.
3. Angela, Connor, and the walker in yellow arrived at the same time; Angela passed the toyshop at 8:05, Connor passed it at 8:30, and the walker in yellow passed it at 8:50.
4. Mike and Bradley entered the mall from the same end, but from different sides; Mike arrived after 8 and left 10 minutes before Bradley.
5. Sharon arrived 11 minutes before Jennifer left; at 8:50, Sharon was in front of the dress shop.
6. At 9 am, Ted passed the toyshop and the walker in the white sweat suit passed the bookstore.
7. John and Hale used the same door; John arrived 10 minutes later than Hale.
8. At 8:20, the walker in blue passed the bookstore and the one in orange passed the hat shop; they walked different directions.
9. The shoe store is directly between (and nearest to) the pet shop and the hat shop, and is directly across the mall from the toyshop. The dress shop faces the bookstore.
10. Fields and Martina entered the mall from the same side at the same time.
11. Gates and Johnson walked different directions; neither wore the gray, green, or white sweat suits.
12. The person in the red sweat suit was the first to arrive at 7:32; the last to arrive left by the southwest door at 9:23.
13. Dillon and Evans both came in through east side doors. Dillon passed the pet store at 8:40; the walker in gray did not.
14. Gates and the walker in white passed the hat shop at the same time.

Solution is on page 95.



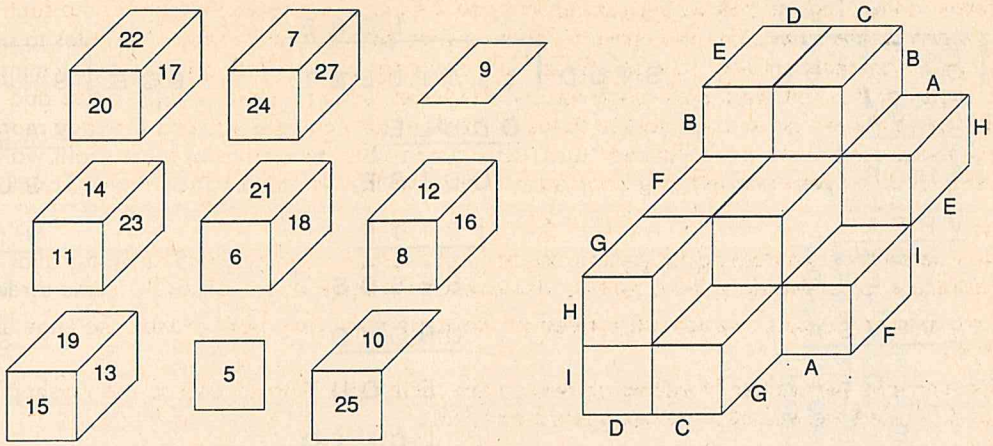


ON THE SURFACE 1-3

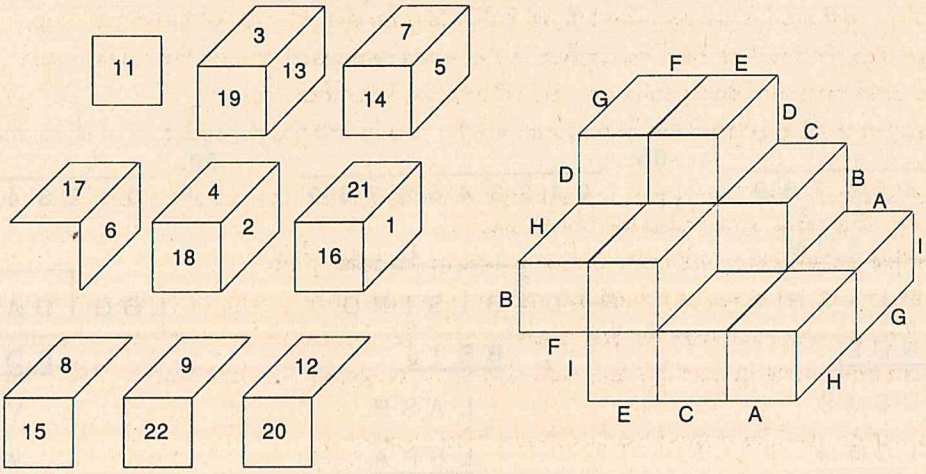
Here's a trio of three-dimensional puzzles that require both mathematical and spatial skills to solve. Fit the pieces on the left into each diagram on the right so that the numbers on the surfaces of each lettered row (from A to A, B to B, etc.) add up to the target number given. Do not rotate the pieces or fit a piece into a section of the diagram that does not match the piece exactly. For example, in the first diagram below, the single-surface piece at the beginning of Row F can only be the single-surface piece with the 9. Continue in the same manner until all the pieces are fit into the diagram.

Solutions are on page 91.

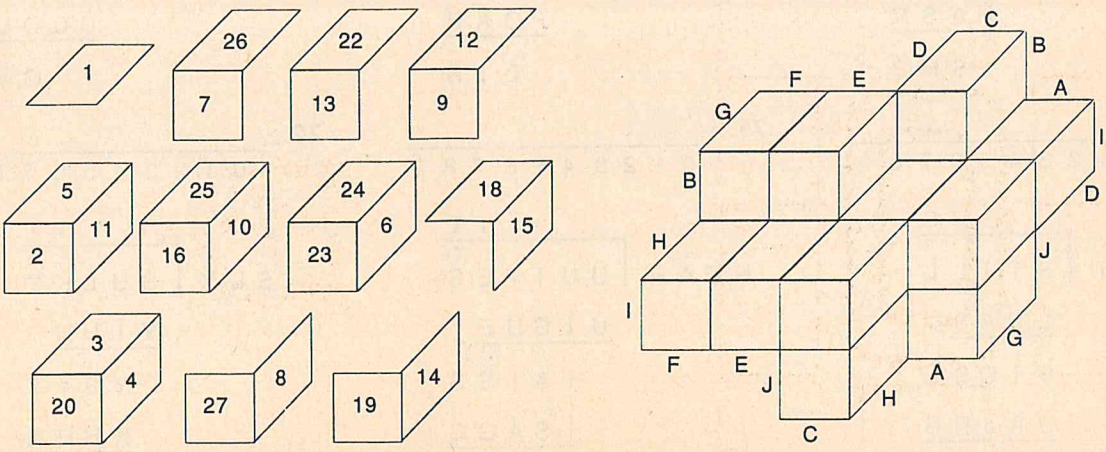
1. TARGET NUMBER: 76



2. TARGET NUMBER: 54



3. TARGET NUMBER: 68



WORD ARITHMETIC

Directions for solving Word Arithmetic are on page 14.

Solutions are on page 97.

64. GRAVELPITS

0 1 2 3 4 5 6 7 8 9

1769
R I P S
5232 | 9258741
L A V A | S A L T I E R
5232
L A V A
40267
E G A P I
36624
V P P A E
36434
V P E V E
31392
V R V S A
50421
L G E A R
47088
E I G T T
3333
V V V V

65.

0 1 2 3 4 5 6 7 8 9

L O S E
S T U D | L I T T L E S T
O D U L E
O D I S E
I S I T B
S V L D S
D B O V O
E I D U T
L D L I O
L T B L

66.

0 1 2 3 4 5 6 7 8 9

B O B B I
B O B | S H A M P O O S
S A S B
S O C P
S I C P
M P P O
S A S B
S A H O
S A S B
E H S
B O B
I O A

67.

0 1 2 3 4 5 6 7 8 9

S U M
R U N | S P L A S H
U N O L
U S M S
L O M H
H R R H
H A S M
S M R

68.

0 1 2 3 4 5 6 7 8 9

O I L
R I D | B I S T R O
B S I T
L A S R
L B P A
P D P O
P O A R
L I R

69.

0 1 2 3 4 5 6 7 8 9

A D A
L O G | D A M A G E
D D O U
Y I O G
Y Y I A
D I I E
D D O U
G Y

70.

0 1 2 3 4 5 6 7 8 9

U S
R O U T | S T I L L
L U A S
U I O S L
U A J R U
U O A N

71. SHA

0 1 2 3 4 5 6 7 8 9

I T
2 0
N E A R | U N I T E S
U T G U E
2 00
I A I S S
02
I S A G G
1
H N I T

72.

0 1 2 3 4 5 6 7 8 9

T I
S L Y | S U L K Y
Y I U H
Y B I Y
K H H R
Y B H

LOGIC PROBLEM
CHALLENGER

22. FOREST TALES **by DAVID CHAMPLIN**

Ms. Riter assigned the six students in her creative writing class a short children's story about an imaginary creature who lived in a forest. Each story was required to have the following elements in it: the creature's name, a description of the creature's home, and an account of an adventure experienced by the creature in the company of an animal friend. The six stories were posted in a row on the bulletin board, so that the students could read and critique each other's work. From the information given below, determine each student's full name, the type of imaginary creature each wrote about, each creature's name and home, the animal each creature had as a friend, and the order in which the six stories were posted on the bulletin board.

1. No student has the same first and last initials, and no student wrote about a creature whose given name began with the same letter as that student's first or last name.
2. None of the following four stories was on either end of the row: the story Amy wrote, the story by Mr. Wilcox, the story about Oakleaf, and the story about the creature who lived in a cave.
3. The gnome didn't have the mouse as a friend.
4. Olson's story was posted next to the story about the elf, but not next to either the story about Dandelion or the story about the creature who lived in a hollow tree.
5. Olga's story was posted directly between the story about the sprite and the story about the creature whose friend was a fox. The story about the creature who lived under a rock was somewhere between the story about Pinecone and the story Moore wrote. (Note: All six stories are mentioned in this clue.)
6. Neither Paul nor Armstrong wrote any of the following three stories: the story about the brownie, the story about the creature whose friend was a deer, or the story about the creature who lived in an abandoned bird's nest.
7. Wilcox didn't write about either the brownie or the creature whose friend was a chipmunk.
8. Wendy's story was posted next to the story about the gnome. Drake's story was posted somewhere to the right of the story about Mapletwig. The story about the creature who lived in a shoe was not posted next to the story about the creature whose friend was a rabbit. (Note: All six stories are listed in this clue.)
9. David's story was posted directly to the left of Ms. Petrie's story, which was posted directly to the left of the story about Walnut. The story about the pixie was posted somewhere to the left of the story about the creature whose friend was a chipmunk. None of these five stories was about the creature who lived in a box.
10. Drake didn't write about Walnut.
11. The three men in Ms. Riter's class are: Matt, the one who wrote about Appleseed, and the one who wrote about the dwarf. The three female students are: the one who wrote about the creature who lived in a shoe, the one who wrote about the creature whose friend was a squirrel, and the one whose story was the fourth one in line.
12. Walnut isn't the elf.

Solution is on page 96.

Use the space below for solving.

FIGURE LOGIC 15
CHALLENGER

by LINDA THISTLE

Directions for solving Figure Logics are on page 7.

If you need help starting this puzzle, starting digits are given on page 98.

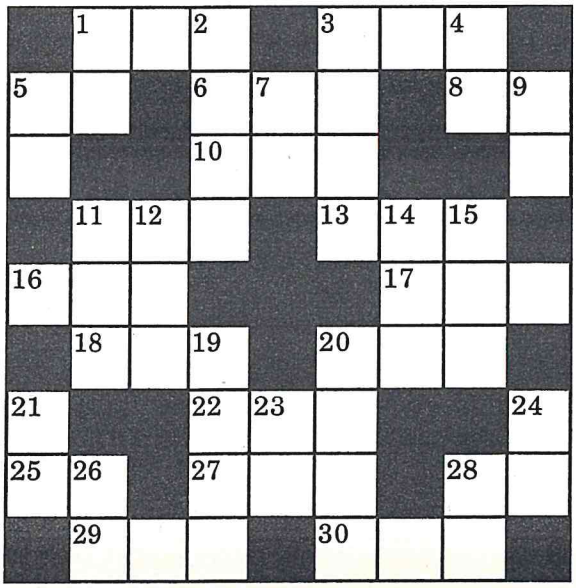
Gina drew the job of counting buttons for the annual storewide inventory. She began with the white plastic buttons, which came in three styles (2-hole fisheye, 4-hole shirt, and shank) and three sizes (3/8", 1/2", and 5/8"). Fortunately, the buttons were sewn to cards, six to a card. Counting cards was easier than counting individual buttons. Gina counted twice as many 5/8" shirt button cards as 1/2" fisheye button cards, twice as many 1/2" fisheye button cards as 3/8" shirt button cards, and three times as many 5/8" fisheye button cards as 3/8" shirt button cards.

ACROSS

1. One more than 1/2" fisheye buttons plus 5/8" fisheye buttons
3. 1/2" fisheye buttons
5. 1/2" shirt button cards
6. 5/8" shirt button cards
8. One less than 5/8" fisheye button cards
10. One more than total fisheye button cards
11. Total shank buttons
13. 5/8" shirt buttons
16. Total shirt button cards
17. 5/8" fisheye buttons
18. One more than 5/8" shirt buttons minus 5/8" shank buttons
20. Total 3/8" button cards minus 5/8" shank button cards
22. 3/8" shank buttons
25. 3/8" shirt button cards
27. Eight less than 5/8" shirt buttons
28. 5/8" shank buttons
29. 3/8" fisheye buttons
30. Total 3/8" buttons

DOWN

1. Total shank button cards
2. Total 1/2" buttons
3. Total buttons
4. Twice 1/2" shank button cards
5. Three more than total shank button cards
7. One less than 5/8" shank button cards
9. 1/2" shank button cards
11. Total button cards
12. Twice total 3/8" button cards
14. Four times total 1/2" button cards
15. Total 5/8" button cards
19. Total fisheye buttons
20. Total 5/8" buttons
21. 5/8" shank button cards
23. 1/2" fisheye button cards
24. 3/8" shank button cards
26. 5/8" fisheye button cards
28. 3/8" fisheye button cards



Solution is on page 89

LOGIC PROBLEM
CHALLENGER

23. GONE TO EUROPE ON A TOUR — EIEIO

by ROBERT NELSON

The Early Industries of Europe Investigation Organization (EIEIO) sponsors annual trips for members interested in learning more about European tools and trade of yesteryear. Their tours combine all the highlights of a general sightseeing trip with a special focus on guild halls and museums preserving the tools and practices of early craftsmen; and nonmembers on the tour usually enjoy the trip as much as members do. That certainly proved true of John and the other nonmembers who accompanied their member-spouses on this year's trip. A good time was had by all 25 tourists—12 married couples and one unmarried woman, who hailed from ten different States including Missouri, not counting the couple from Canada. From the following clues, can you identify the full names and home States (married couples share the same last name and home State) of each traveler?

1. The twelve men are: Bill and the two Gordons; the husbands of Helen, Rella, and Virginia; Mr. DiFrancesco, Mr. Ludwig, and Mr. Smith; and the one from California and two from Maryland.
2. The thirteen women are: Maggie, Marion (who is from neither Texas nor Vermont), Ruth, and Wadie; the wives of Bob and the two Rogers; Mrs. Ackroyd, Mrs. Johnstone, and Mrs. Stanton; and those from Canada, Delaware, and Illinois.
3. Only one man who has the same first name as another is also from the same State as another; the other man with that first name is married to Jean. Only one couple shares the same first-name initial; they are from the same State as another couple (but not the one previously mentioned in this clue). Except for the couple with the shared first initial, and the couples from California and Massachusetts, all husbands' first initials alphabetically precede those of their wives.
4. Along with the two pairs of men who share first names, there are three pairs of men who share first initials—Al and Art, Bill and Bob, and Dan and Don. One of these pairs is Ackroyd and Nelson; a second pair are from Pennsylvania and Vermont; and the third pair are married to Rella and Ruth (all in some order). The two men who do not share first initials with other men are Virginia's husband and Mr. DiFrancesco.
5. The thirteen last names are: those of the couple from New Hampshire and the two couples from Texas; Bates, McGibbons, Pfrank, and Risley; those of Art, Dan, and Don (who is not Mr. Ludwig); and those of Betty, Eleanor, and Marsha.
6. Two pairs of couples share the same last initial—the Pfranks and the Phillips, and the Smiths and the Stantons. The husbands in one of these pairs are one of the Gordons and one of the Rogers; the other pair is the other Roger and his wife and the couple from Illinois.
7. The nine different States that the eleven married American couples represent are: Massachusetts, Pennsylvania, and Vermont; the home States of Al and Francis; the home States of Claudine and Linda; and those of the Hydes and the Phillipses.
8. The single woman's first initial corresponds to the first letter of her home State, as does another woman's; no man's does. No one has the same first and last initial.
9. Along with the two States that are home to two couples each, there are two pairs of home locations that share their first letter—California and Canada, and Massachusetts and Missouri. Eleanor's home is in one of these pairs, Maggie's in the other; the other halves of the two pairs are the McGibbonses and the Smiths.
10. Neither Art nor Virginia is from Delaware.

Solution is on page 98.

Use the space below for solving.

CROSS SUMS 1

1	5		7	2		2	7	1		5	1	2
3	2	8	9	1		4	9	8		9	6	8
	8	9		3	5	1	2		9	7		
		6	9	4	8			3	8		1	3
1	8		5	6		1	4	2		7	2	1
4	9	3	8		4	3	2	1		9	6	8
		1	7	4	2		6	5	9	8		
7	1	2		6	1	2	3		5	4	1	3
9	7	4		8	9	7		9	7		5	6
8	2		7	9			1	5	4	3		
		6	5		8	9	5	7		2	8	
4	2	1		3	1	6		3	6	1	4	2
2	1	3		1	2	8		8	9		9	7

CROSS SUMS 2

		9	8	5	2		7	8	9		9	7
3	6	4	2	1		1	2	5		5	6	8
1	2	5	3		7	9	6	8	4		9	7
		2	1	7	9		1	6	3	8	2	5
9	7		7	9	8	2		7	1	5		
8	5			2	5	1	8		2	9	8	
6	1	5	2	4	3		1	2	5	7	9	4
	3	8	9		6	9	7	8			3	1
		1	8	3		8	2	3	1		6	2
5	4	2	7	1	3		3	6	2	1		
9	7		6	2	1	3	4		9	8	7	5
8	9	2		9	5	8		9	8	6	4	7
	8	6		7	2	9		8	3	2	1	

CROSS SUMS 3

1	6		3	1		6	1		7	9		
5	8		2	4		9	3	5	8	6	7	
3	9	7		3	8	4	2	1	5		9	7
		5	9		9	7			9	2	8	6
5	9	1	4	8	6		3	7		1	5	
3	8			1	3		1	2	4	3		
	6	2	1						9	4	7	
		7	3	8	9		7	9			9	7
	8	9		1	7		6	4	3	9	8	2
5	7	8	2			2	9		1	6		
1	4		8	9	2	7	5	6		8	9	4
	9	2	7	8	4	5		4	3		7	1
		7	9		1	9		5	1		8	2

CROSS SUMS 4

9	2		6	9	8		1	7			2	7
8	4	9	2	7	3	1	5	6		8	3	9
	3	6	1		7	2		5	2	3	1	
9	6	8	4		9	3		8	6	9		
8	5			1	6			3	1		1	3
7	1		9	4	2	6		9	7	8	5	4
		9	5		1	3	9		4	7		
9	7	8	4	6		1	7	5	3		7	9
5	1		2	3			3	9			9	8
		9	6	8		7	4		8	1	6	7
	6	7	1	5		8	6		9	7	8	
3	9	8		9	8	5	1	3	6	2	4	7
4	8			7	9		2	1	4		5	9

CROSS SUMS 5

1	5	6		5	1	2		9	7		1	8
3	7	9		9	2	8		8	1	5	2	7
	4	8	3	7	5	9	1	6		7	8	9
3	1		2	8			2	4		9	6	
8	2	9			2	1	3	7		6	4	2
		7	4	3	9	8	5		9	8	5	7
3	1		2	1				1	5		3	1
7	4	2	1		4	9	6	3	8	7		
9	8	6		5	2	3	1			9	8	7
	7	3		3	1			2	8		5	9
2	6	1		9	3	7	8	5	2	1	6	
4	9	7	5	8		8	9	3		2	3	1
1	3		2	6		3	2	1		4	9	7

CROSS SUMS 6

9	8	6				5	9	8	7		8	3
7	9	3	8		1	2	8	7	3		5	1
	4	1	3	5	2			9	1		9	7
			1	9		1	3		2	3	4	
	1	7	2	6		5	8		9	8		
6	4	9	7	8	3		9	6	8		9	2
1	2	8		4	1		5	2		3	5	1
2	3		8	7	5		7	5	6	9	8	3
		8	3		4	3		4	5	8	7	
	7	4	6		2	1		1	8			
4	8		1	9			6	3	9	4	8	
1	3		4	7	3	8	9		7	1	3	2
2	9		2	5	1	3				2	9	8

CROSS SUMS 7

2	9			7	1		8	4			8	9
7	8	9		9	2		7	6		1	5	7
1	3	6	2	8	7	4	5		2	3		
		4	1	2		8	9		1	2	6	3
9	6	8			8	2			6	5	8	9
7	5			8	9	6		7	9		9	2
			7	4	5	3	9	6	8			
9	2		9	3		7	8	9			1	2
8	6	9	4			1	2			1	3	6
3	1	7	2		7	9		8	9	6		
		8	1		8	5	7	2	3	4	6	9
4	2	6		2	9		8	1		2	1	4
9	7			1	6		9	3			2	8

CROSS SUMS 8

		2	5		7	9		9	7		1	5
		7	9		9	5	4	6	8	2	3	7	1
2	6		2	5		7	8	9	5		9	2
1	3		4	8	6					1	3	
	5	1			7	3					8	4
	8	6	9			4	1	2				6	8
6	9		7	5	2	6	3	4	1		7	9
2	1			3	1	2				7	9	8
	4	5					1	3			6	3
		7	3					8	6	9		9	7
6	2		2	3	7	1		4	7		1	2
8	4	7	1	5	9	3	6	2		3	2	
	1	3		9	8		3	1		1	5	

CROSS SUMS 9

		5	9			2	4	1			1	2
1	2	3		5	9	8	2	6		9	3	7
5	7	6	3	9	8			7	8	6	1	2
		2	1	3	7		4	9	7	8		
	8	7	2			4	6		9	7	8	
2	9		5	3	6	1	7		3	2	5	1
1	3			4	8		5	1			7	9
4	2	3	1		9	7	8	3	1		6	5
	7	8	4		5	1			2	5	9	
		9	7	8	2		8	3	9	6		
9	8	7	2	6			9	5	7	8	6	3
7	9	6		9	3	2	4	1		9	8	7
	7	4			6	9	7			7	9	

CROSS SUMS 10

		2	3	7	1	5		2	4	1		2	4
8	4	6	9	3	7		4	7	3		9	7
9	3				2	5	3	1		4	3	1
7	1		9	7	6	8	1	2		6	1	2
		9	7	8				1	8			
8	1	2	3	6		3	4	5	6	7	9	8
9	7			9	3	6	7	8			3	1
6	3	2	7	5	1	4		2	4	1	7	3
		3	9				4	8	3			
9	5	7		3	8	9	6	1	7		4	8
8	3	1		4	7	8	9				7	9
6	1		3	1	4		7	2	1	3	5	6
7	2		1	2	9		8	4	7	6	9	

CROSS SUMS 11

1	6			4	1	2			8	7	9	
2	8		1	8	3	9	7		2	4	1	3
4	9	1	2		2	8	6	4	7	9		
	7	2		5	4		1	3		7	9	
		5	7	9	6		3	2	9		3	1
	5	3	1	7			1	7	4	6	2	
9	7	4							3	8	4	
7	6	8	9	3			2	3	1	7		
8	9		2	1	8		6	8	5	2		
	2	8		6	9		7	9		6	9	
		3	1	2	7	9	4		9	5	7	8
3	1	6	2		5	8	9	7	6		8	9
8	7	9				6	8	9			5	6

CROSS SUMS 12

		7	9			6	8	9			9	5
9	6	8		6	5	8	9	7		3	2	1
8	4	6	7	5	2	9			7	1		
		4	9	2	1		6	8	9		8	4
7	9				6	7	8	9		8	9	6
5	7	3	8	9	4	6			2	9	7	
		2	6	8	3	5	7	9	1	4		
	8	5	9			8	5	7	4	6	3	9
2	4	1		5	7	9	8				2	7
1	3		6	8	9		9	5	8	7		
		7	5			1	6	3	9	8	2	4
6	1	4		3	5	2	4	1		9	3	8
9	3			7	9	4				6	1	

CROSS SUMS 13

8	9	4			9	7		5	9		9	8
1	2	3		1	8	4	2	9	7	3	6	5
	3	1	5	2		2	1	4		1	3	
		7	9		9	6		7	1		2	1
4	1	2	7		2	1		8	3	1	5	2
9	4		8	9		3	8		2	3		
7	2			7	4		5	3			2	1
		2	1		6	3		4	8		4	2
8	7	9	6	5		4	9		6	2	1	3
9	8		2	3		1	3		5	1		
	9	7		1	4	2		8	9	6	7	
3	4	1	7	2	8	9	6	5		4	1	2
1	5		9	7		7	2			3	2	9

CROSS SUMS 14

3	1	5	2		4	2				1	7	
8	6	9	4		9	6	8		2	3	5	1
			1	8			3	8	1		9	2
	1	3		9	3	6		9	4			
9	4	6	2	5	1	8	3	7			7	9
7	2		1	6		9	7		2	1	4	5
		8	4	7	9		1	6	3	2		
2	1	5	3		6	2		7	1		8	1
9	4			3	8	1	7	5	4	6	9	2
			8	1		4	9	8		2	7	
9	7		6	2	1			9	2			
5	1	3	9		4	1	2		1	2	3	5
	5	1				3	6		5	6	8	9

CROSS SUMS 15

		2	6	4	1				9	7	6	5
6	5	8	9	4	7		7	5	4	8	1	3
2	1	4		5	9		1	8			7	8
8	4				4	1	3	7	8		3	7
1	3	2		1	5	3		4	3	7	2	1
	9	8	4	7		8	9		9	8	4	
		5	2	4	3		7	1	4	2		
	5	9	8		1	2		3	7	9	2	
8	4	7	3	9		3	9	2		4	1	2
9	6		1	2	6	4	5				7	9
3	1			7	9		8	6		1	3	4
6	2	8	4	1	5		3	9	7	5	6	8
	3	7	9	8				4	6	2	5	

CROSS SUMS 16

		9	8	6	7	2		8	9	5		
	3	5	7	2	6	1		2	7	1	5	
9	6	8		7	8	4	2	9		9	8	3
7	5			3	5		1	3			3	1
8	2	9	7	1		1	4		1	3	6	2
2	1	8	4			2	6	7	5	8	9	4
		7	2	9	1		3	8	4	9		
6	4	5	3	8	2	1			2	1	5	3
8	2	6	1		4	5		9	3	6	8	7
7	1			7	9		6	1			3	1
9	6	1		5	8	1	4	3		9	7	2
	8	3	2	1		3	7	6	2	5	1	
		9	4	8		2	9	8	1	6		

CROSS SUMS 17

1	3			3	1	8				4	2	7
4	9	2		5	2	4	1		3	8	6	9
2	5	1			7	9	4	8	2		1	3
	8	6	9	7	3		3	5	1			
			3	1		2	7	9	8		9	4
	3	5	8	2		1	2	4		9	7	6
4	2	1	6		1	4	9		1	4	5	2
7	5	9		8	7	9		1	2	7	8	
5	1		2	1	3	5		8	9			
		9	2	4		4	5	7	1	3		
2	1		7	6	5	9	8			5	9	7
9	6	8	1		2	7	6	9		3	6	1
7	3	5				3	1	7			8	4

CROSS SUMS 18

9	8			1	3			3	1		5	9
2	6	1		2	5	1		7	4	9	6	8
	9	5			9	6	8		2	7		
		2	4	1		9	5	8		3	5	1
1	5		1	2			7	9			9	2
3	7	9	6		5	9	4	6	2	7	8	
		6	2		6	8	9		7	9		
	9	8	3	2	1	7		9	4	8	1	2
1	7			1	3			6	1		3	6
5	8	9		4	2	1		8	3	1		
		7	2		4	8	9			2	1	
3	2	6	1	5		2	5	1		4	8	9
2	1		3	1			6	3			2	7

CROSS SUMS 19

1	2	3		4	7		8	9		9	7	
2	4	1		6	9		9	7		8	6	9
		9	8	2		3	6	8	1		4	7
9	7		2	1	3	5			5	6	9	
5	4	7			1	4	2		3	1		
		3	5	9		1	3			2	5	1
2	9		2	7	1	6	9	3	8		9	7
1	6	2			2	7		1	9	3		
		1	3		3	2	1			1	4	2
	9	4	8		9	7	8	5		8	4	
9	5		1	4	2	8		5	2	1		
7	3	9		9	5		7	9		5	9	7
	1	7		7	1		2	6		2	3	1

CROSS SUMS 20

3	9	5	8		1	7	2	8		3	7	1
2	3	1	5		4	8	5	9		5	9	2
5	8		7	9		2	1	5	7		6	8
		7	9	8		9	4		9	7	8	5
7	9	8		7	4			8	6	9		
2	6	1	4		9	2	8	4			9	1
4	8	2	9		6	1	3		1	4	6	3
1	3			1	5	4	2		7	3	8	5
		1	4	2			9	7		1	4	2
1	5	3	2		5	8		3	1	2		
3	8		3	6	2	9		1	2		9	5
6	9	5		2	1	6	3		7	4	1	2
2	7	1		1	3	7	9		9	6	3	1

CROSS SUMS 21

	6	1	2		9	7				5	4	2
1	7	9	4		4	5	9		4	8	9	6
3	4	5	1	7	2		1	5	2	4		
5	9		9	8	6		3	8	6	9	4	
2	8	7		4	1	3		4	1		5	1
		2	4		5	8	6	9		2	9	8
9	7	3	6		8	9	7		6	1	7	2
5	2	1		9	3	7	8		8	4		
7	4		5	2		1	2	4		7	3	1
	1	8	9	4	6		3	9	7		9	2
		2	7	1	3		1	5	6	2	7	3
7	5	1	8		5	9	4		9	3	8	7
9	8	4				4	5		4	1	5	

CROSS SUMS 22

	8	5		5	2			8	9	5	7	
1	4	2		3	1		9	4	7	2	8	6
7	3	1	9		4	3	2	1		4	9	8
3	5		1	8		9	5	3	2	1		
2	1	3	7	9			6	2	1		6	2
	2	1	3	6	4	5	7			5	9	4
		9	8		1	2	4		9	8		
6	9	8			6	9	8	7	3	1	2	
8	7		7	5	9			9	8	7	6	5
		7	3	2	8	1		8	6		9	1
9	8	3		6	7	5	3		7	5	1	2
4	6	1	2	3	5		6	7		9	8	3
	9	2	4	1			1	3		8	3	

CROSS SUMS 23

5	1		8	3	9		1	3		1	3	6
7	2	4	3	1	6		2	6	4	7	9	8
9	7	8	6	4		9	5		1	3	8	
	3	6	4	2	1	7		1	3	2	7	5
6	5		9	8	4		1	3	2	4	5	9
2	4	1		9	5		8	9	6		4	1
		3	7					5	1			
1	9		9	6	5		8	2		3	1	2
7	8	9	5	2	1		3	5	2		5	9
2	4	6	3	1		9	4	6	1	2	7	
	3	5	1		9	8		7	5	8	9	4
7	1	4	2	9	8		7	4	3	1	8	2
9	6	8		1	7		9	8	4		6	1

CROSS SUMS 24

	7	3	1				4	3		1	3	
7	8	9	6			4	2	1		2	1	8
1	9	7	3		3	7	6		5	7	8	9
		2	4	3	6	5		1	2	3	4	6
1	3		2	1	4		9	8	3			
7	9	5		9	8	3	6	4	1	2		
	4	2	1		9	2	5		6	1	2	
		8	7	6	5	1	4	9		8	6	9
			9	8	7		1	4	2		8	7
9	8	7	3	1		9	3	1	5	2		
3	5	1	2		9	7	2		3	9	7	8
8	7	2		9	8	4			1	3	2	5
	9	3		1	5				4	8	9	

CROSS SUMS 25

	2	4	1	5			7	1	5	3	2	
7	6	8	3	9		3	9	5	7	8	6	1
8	4	9	2		8	1	4	2		9	3	5
4	3		7	1	9			3	6	5	1	2
9	7	4	8	2		1	2	7	9		4	9
5	1	3		9	7	4	8		8	4		
	9	5		3	2		1	5		3	8	
		6	5		3	9	7	8		1	3	4
7	1		2	7	1	6		1	8	5	7	9
8	4	2	1	9			8	3	9		1	5
9	7	6		3	1	2	5		2	9	4	8
5	2	1	7	6	3	4		7	1	3	2	6
	5	4	9	8	7		9	6	8	5		

CROSS SUMS 26

1	7				2	1	4				1	3
5	9	6		2	5	3	7	1		9	6	4
	2	1	8	3	6		9	6	7	8	3	
		4	6	7				5	9	6		
	6	5	9	8	7		9	2	5	1	3	
8	9	3		9	8	4	1	3		4	9	5
2	4				6	1	2				6	2
1	7	2		1	4	2	5	3		9	8	4
	8	1	4	2	9		7	5	2	3	1	
		8	9	5			8	6	7			
	2	6	7	3	1		1	6	3	5	2	
1	5	9		6	4	7	3	9		8	7	1
3	7				9	8	6				9	4

CROSS SUMS 27

7	2		8	4		5	8	6	9		1	8
9	4	8	3	1		3	6	4	8	1	2	5
4	1	6	2			1	9	3		5	7	9
	5	9		8	4	9			1	2	4	
		2	6	3	1	8	5		3	4	6	1
	1	5	8	9	3		2	7		7	9	3
9	7		9	5				8	9		3	2
5	2	3		4	6		2	3	5	1	8	
8	6	9	7		1	2	5	6	7	3		
	4	6	1			1	3	9		8	5	
2	9	8		3	5	7			2	7	1	3
4	5	7	6	2	8	9		4	6	9	3	8
1	3		2	1	3	5		1	7		7	9

CROSS SUMS 28

6	9	5	8		7	9	6		9	4	7	5
4	5	2	9	6	1	7	3		6	1	4	2
2	6	1		8	6		9	4	8	2	6	3
1	3		8	9	5		8	2	3		5	1
9	8	1	3		9	4	7	1		1	8	6
	7	2	4	6	3	1	5		7	8	9	
		3	6	9				1	6	7		
	1	4	9		9	8	3	2	4	5	1	
2	8	7		9	6	2	1		8	9	6	3
1	5		5	7	2		8	4	9		4	2
5	6	4	2	3	1		6	2		5	9	7
7	9	6	3		8	3	9	5	4	2	7	6
4	7	2	1		7	1	2		2	3	8	1

CROSS SUMS 29

8	4		9	7	2		3	9	6		3	4
5	2	7	8	6	1		1	5	2	8	6	9
	1	3		9	4	1	6	8		4	1	
7	9	8	5		7	4	9		1	6	2	3
1	6		3	1	5	2		1	2	9	8	6
3	8	5	1	2		9	7	8	5		5	1
	9	2	4	7		5	2	3	4			
9	5		4	8	9	1		7	6	9	1	4
5	1	4	7	6		9	2	3	4		4	9
7	4	6	9		9	8	4		9	1	2	7
	7	8		5	2	3	1	7		2	3	
8	3	7	4	9	5		6	9	3	8	7	5
5	2		2	6	1		3	5	1		6	2

CROSS SUMS 30

5	1			2	6	8	4	5	7	9		
6	3	1		1	7	9	2	3	4	5	8	
8	6	2	1	5		6	1	4		2	3	7
	8	4	5		7	5				1	2	4
		8	4		1	3	9	6	8		7	9
	5	9	8	6		1	8	3	4		1	3
5	8	7	6	2	1		6	2	3	7	9	8
4	3		9	4	7	8		1	2	3	5	
3	7		7	1	3	6	5		7	9		
1	2	8				9	3		5	8	7	
2	4	9		5	9	7		2	1	5	3	4
	1	5	6	2	3	4	7	8		6	1	3
		7	8	1	4	2	6	9			2	8

BINGO PLAYS 1

	B 1-15	I 16-30	N 31-45	G 46-60	O 61-75	
P	13	28	32	50	66	P
L	1	30	39	57	74	L
A	10	19	FREE	52	71	A
Y	9	25	41	49	65	Y
S	4	20	42	59	69	S
	B	I	N	G	O	

BINGO PLAYS 2

	B 1-15	I 16-30	N 31-45	G 46-60	O 61-75	
P	8	18	42	47	63	P
L	2	19	41	60	61	L
A	14	20	FREE	52	73	A
Y	1	28	33	50	72	Y
S	4	24	40	57	64	S
	B	I	N	G	O	

FIGURE LOGIC 1

7	5		1	8	7	6	9		1	2
5	0	3	3		8		1	2	3	3
0		1	7	8		3	7	6		2
	6	6		4	6	8		5	1	
7		8	1	5		1	1	6		2
1	1	4	3		6		6	9	8	7
9	0		1	2	5	7	3		9	4

FIGURE LOGIC 2

	5	5	5	2		1	4	4		
2	0	5	1	9		2	8	9		
3	4		1	7			7	1		
2	1	3		1	5	1	2	3		
		2	1		9	3				
5	1	6	1	2		2	4	4		
4	2			7	3		2	4		
8	0	3		8	3	5	2	1		
7	7	7		4	3	1	4			

FIGURE LOGIC 3

		7	5	6	5	1				
	5	4	1		4	1	8			
2	7	0	1		8	1	0	3		
9	9	4		3	7		3	8		
7		1	2	3	2	1		0		
1	1		7	3		6	5	7		
1	4	4	4		1	4	0	6		
	8	5	3		6	2	1			
		3	6	7	7	8				

FIGURE LOGIC 4

	2	2	1		3	1	5			
1	1		1	8	7		1	7		
0		3	9	3	0	4		8		
2	2	4		3		4	4	2		
	3	5	7		2	2	6			
9	8	6		2		1	8	5		
0		7	8	8	9	7		7		
1	3		6	9	7		6	8		
	4	5	7		5	8	3			

FIGURE LOGIC 5

	2	1	3		5	8	5			
6		5	4	9	2	5		8		
7	3	6		8		3	5	1		
6	5		8	8	4		3	9		
	1	0	4		2	3	4			
4	5		5	5	9		1	3		
9	2	3		0		6	2	4		
4		1	9	7	7	3		0		
	2	2	1		8	7	1			

FIGURE LOGIC 6

9	3		1	0	4		1	3		
1	0	6	6		1	2	0	9		
	4		9	3	6		1			
4	2	9		2		8	4	5		
4		4	7		6	7		0		
2	9	9		1		1	1	7		
	1		1	5	6		1			
6	0	8	4		1	2	8	7		
5	2		3	5	1		3	8		

FIGURE LOGIC 7

	1	4			1	2	6			
2	5	2		9	7	5	5	6		
2	8		3	9	2		7	6		
1	7	6	4		2	3				
	6	7				2	4			
		2	1		3	1	3	6		
5	6		3	2	2		9	8		
2	4	3	8	9		4	0	6		
	5	7	6			8	4			

FIGURE LOGIC 9

	2	9			4	3	5			
2	1	0		4	2	1	3	5		
8	3		3	0	7		7	3		
5	7	9	3		5	8				
	5	0				2	2			
		4	5		1	2	1	1		
6	1		6	7	5		3	0		
5	0	6	2	5		7	9	5		
	2	2	5			6	0			

FIGURE LOGIC 10

4	5		5	6	7		7	6		
3	4	5	6		8	7	6	5		
	3		7	8	9		5			
3	2	1		7		3	4	5		
4		2	3		3	4		6		
5	4	3		7		5	6	7		
	5		5	6	7		7			
7	6	5	4		6	7	8	9		
8	7		3	4	5		9	8		

FIGURE LOGIC 11

	1	7	5		1	1	4			
6	0	8	4		2	8	7	3		
9	1		6	7	6		3	9		
4	4	2		6		1	2	0		
		9	9	5	9	0				
6	4	9		4		4	1	6		
6	5		3	3	8		5	2		
3	2	1	1		4	2	2	5		
	2	3	4		5	6	1			

FIGURE LOGIC 12

4	1	3	7		2	9	5	5		
5	7		4	2	1		3	2		
0		3	9	6	4	4		4		
5	9	1		5		3	6	3		
	2	6	7		1	7	9			
1	7	8		1		8	4	2		
3		4	3	7	8	1		3		
7	8		3	0	9		5	1		
9	9	1	1		5	3	4	7		

FIGURE LOGIC 13

6	3		1	8	5		4	2		
4	2	8	6		3	5	2	8		
	1		3	8	2		3			
2	4	1		2		3	1	2		
7		2	1		5	6		1		
1	4	7		3		1	2	7		
	2		2	7	3		1			
6	1	3	5		1	8	4	9		
4	3		3	2	6		3	1		

FIGURE LOGIC 15

	8	4	1		3	3	6			
9	8		1	1	2		8	3		
1			2	1	1			4		
	5	2	8		6	7	2			
2	3	8				5	0	4		
	6	0	1		1	2	8			
1			2	5	2			4		
2	8		6	6	4		7	2		
	4	2	0		8	4	0			

MAGIC NUMBER SQUARES

1.

158	198	166	254
238	182	214	142
246	174	206	150
134	222	190	230

2.

183	203	209	181
197	193	187	199
189	201	195	191
207	179	185	205

3.

220	184	200	172
164	208	192	212
176	196	180	224
216	188	204	168

NUMBER PLACE

1.

2	1	7	6	9	3	4	5	8
6	9	4	1	5	8	3	2	7
5	8	3	7	4	2	1	6	9
8	2	6	9	3	5	7	1	4
4	7	9	8	6	1	5	3	2
1	3	5	4	2	7	8	9	6
7	4	2	5	1	9	6	8	3
3	6	1	2	8	4	9	7	5
9	5	8	3	7	6	2	4	1

2.

5	4	9	7	2	1	3	8	6
6	7	2	3	4	8	5	1	9
1	3	8	5	6	9	4	7	2
9	2	6	1	7	5	8	4	3
3	5	4	2	8	6	7	9	1
7	8	1	9	3	4	6	2	5
2	9	7	4	5	3	1	6	8
4	6	5	8	1	2	9	3	7
8	1	3	6	9	7	2	5	4

3.

5	4	9	3	2	1	8	6	7
2	7	1	8	6	5	3	9	4
8	3	6	4	7	9	5	2	1
1	5	7	2	4	6	9	3	8
9	6	2	1	3	8	7	4	5
4	8	3	9	5	7	6	1	2
6	1	4	5	8	3	2	7	9
3	2	5	7	9	4	1	8	6
7	9	8	6	1	2	4	5	3

4.

3	1	5	7	4	9	2	6	8
8	9	2	1	6	5	7	4	3
7	4	6	3	8	2	1	5	9
1	6	9	8	5	7	4	3	2
2	5	8	4	3	1	6	9	7
4	3	7	2	9	6	5	8	1
5	8	1	6	2	3	9	7	4
9	7	3	5	1	4	8	2	6
6	2	4	9	7	8	3	1	5

5.

9	4	7	2	6	5	1	3	8
5	2	3	1	7	8	6	9	4
1	8	6	4	3	9	2	5	7
6	5	9	7	1	2	4	8	3
2	3	8	5	4	6	7	1	9
7	1	4	9	8	3	5	2	6
3	6	1	8	2	7	9	4	5
8	9	2	6	5	4	3	7	1
4	7	5	3	9	1	8	6	2

6.

8	9	7	3	6	5	1	2	4
3	6	2	8	1	4	7	9	5
1	4	5	9	7	2	8	3	6
7	5	3	4	2	6	9	8	1
4	2	8	1	3	9	6	5	7
9	1	6	5	8	7	2	4	3
5	8	1	6	9	3	4	7	2
2	3	9	7	4	1	5	6	8
6	7	4	2	5	8	3	1	9

7.

3	5	4	2	9	1	8	6	7
6	8	2	7	4	5	3	9	1
9	1	7	3	8	6	4	2	5
2	4	9	6	1	3	7	5	8
1	7	6	8	5	2	9	3	4
5	3	8	4	7	9	6	1	2
7	2	1	9	6	8	5	4	3
4	6	3	5	2	7	1	8	9
8	9	5	1	3	4	2	7	6

8.

1	5	6	8	4	2	3	7	9
2	3	4	7	6	9	1	5	8
9	7	8	5	3	1	2	4	6
4	1	3	2	9	6	5	8	7
8	9	2	3	5	7	4	6	1
5	6	7	4	1	8	9	2	3
3	8	9	6	2	4	7	1	5
7	4	1	9	8	5	6	3	2
6	2	5	1	7	3	8	9	4

9.

5	4	6	2	3	7	1	9	8
1	8	7	4	6	9	3	5	2
9	2	3	1	5	8	4	7	6
6	7	9	3	8	5	2	4	1
2	1	8	6	7	4	5	3	9
3	5	4	9	1	2	6	8	7
4	3	2	8	9	6	7	1	5
7	9	1	5	2	3	8	6	4
8	6	5	7	4	1	9	2	3

10.

6	8	1	3	2	4	7	5	9
2	9	3	1	5	7	6	8	4
7	4	5	6	9	8	1	3	2
9	5	8	4	6	3	2	7	1
1	6	7	2	8	5	4	9	3
3	2	4	7	1	9	8	6	5
4	7	2	5	3	6	9	1	8
5	1	9	8	7	2	3	4	6
8	3	6	9	4	1	5	2	7

11.

4	8	5	1	3	2	6	9	7
1	6	2	7	4	9	8	3	5
9	7	3	5	6	8	1	4	2
6	9	7	8	2	1	4	5	3
2	3	4	6	7	5	9	1	8
5	1	8	4	9	3	2	7	6
7	5	6	9	8	4	3	2	1
8	2	9	3	1	7	5	6	4
3	4	1	2	5	6	7	8	9

12.

8	9	4	7	5	2	3	1	6
5	6	1	8	4	3	9	7	2
7	3	2	9	6	1	8	4	5
2	1	5	6	7	8	4	9	3
3	8	7	4	2	9	6	5	1
6	4	9	1	3	5	7	2	8
1	7	3	5	9	6	2	8	4
9	5	6	2	8	4	1	3	7
4	2	8	3	1	7	5	6	9

CROSS NUMBERS

1.

5	×	8	÷	4	10
+		+		×	
6	+	3	×	7	63
−		+		−	
2	×	9	÷	1	18
9		20		27	

2.

5	+	4	×	7	63
×		×		−	
8	−	3	+	1	6
÷		+		+	
2	×	6	−	9	3
20		18		15	

3.

2	−	1	+	8	9
×		+		−	
6	×	5	÷	3	10
+		×		+	
9	−	7	×	4	8
21		42		9	

SUM LOGIC

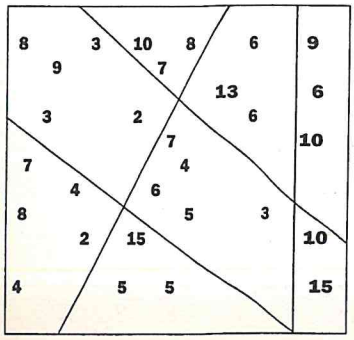
1.

5	13	11	27	12
19	12	7	25	5
20	17	13	4	14
13	7	27	11	10
11	19	10	1	27

2.

4	29	7	2	-8
-13	3	-8	11	41
19	-16	21	17	-7
21	7	20	-8	-6
3	11	-6	12	14

LINES OF SIGHT



GO FIGURE!

	7	5	3
8	6	4	2
4	2	8	6
2	4	6	

NUMBER LOGIC

30 / 33 C 31 / 32	32 / 31 I 30 / 33	32 / 30 E 33 / 31
32 / 31 H 30 / 33	33 / 30 F 31 / 32	31 / 31 A 32 / 33
33 / 32 B 31 / 30	32 / 31 D 30 / 32	33 / 30 G 32 / 31

FIGURE LOGIC 8

8	3	1			1	2	3			7	2	3
8	7	2	1		5	7	9		1	5	4	2
3	3		5	1	4		6	9	3		1	3
			1	4				7	8			
			2	1	3		1	5	6			
8	6	5			7	0	6			1	6	9
1	7	4	2	4	3		9	5	0	6	2	5
4	2	2			9	3	6			8	5	0
			1	1	5		2	1	1			
			2	5				4	8			
8	1		5	3	6		2	4	7		1	1
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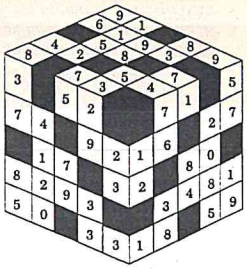
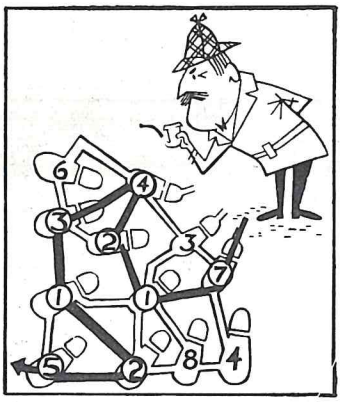
5	8	5			3	5	1			4	3	2

FIGURE LOGIC 14



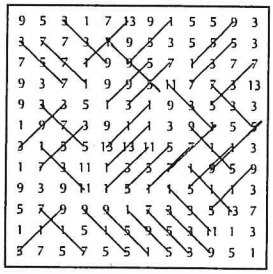
THE MYSTERIOUS FOOTPRINTS



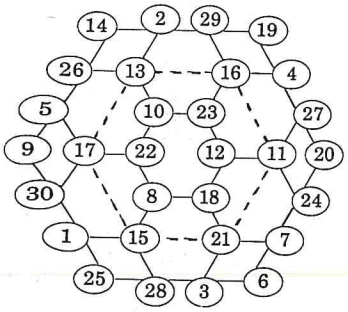
NUMBER PATH

4	÷	7	×	8	÷
+	5			+	3
3				×	
×				2	
2	÷			9	+
+	7			×	7
9	−	5	÷	6	
+	3	×	2	÷	3

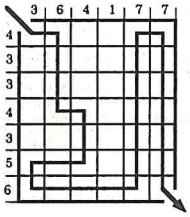
36 TRIOS EQUAL 15



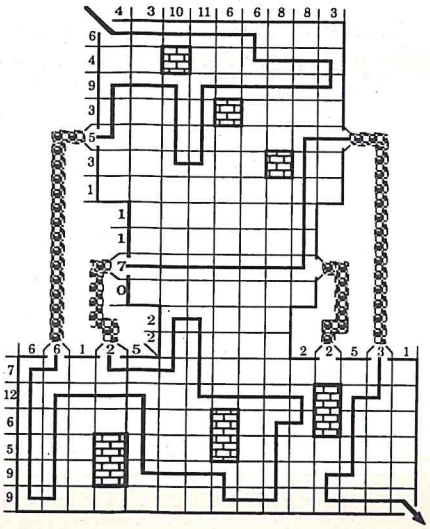
HEXAGONAL NUMBERS



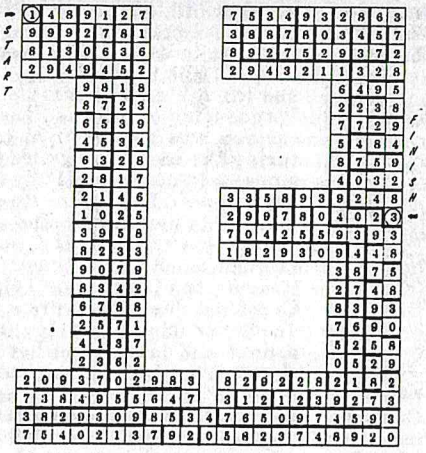
MATH MAZE 1



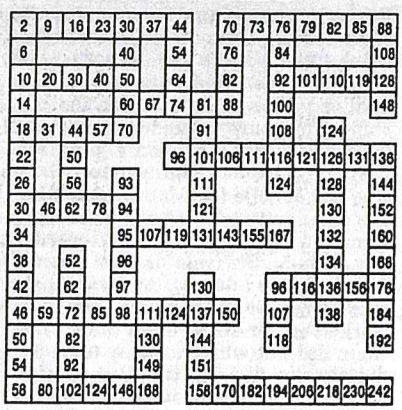
MATH MAZE 2



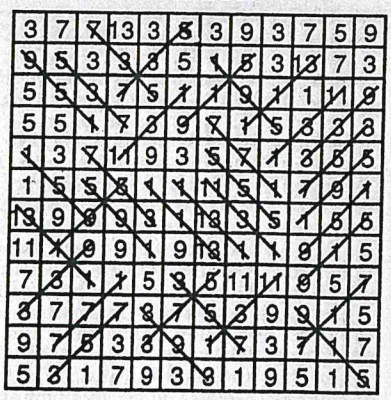
THE BIG THIRTEEN



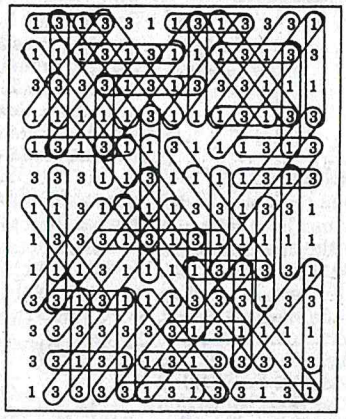
NUMBER FILL-IN



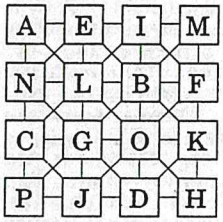
ODD LOTS



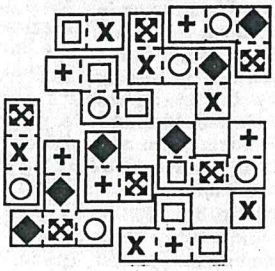
LUCKY NUMBER SEARCH



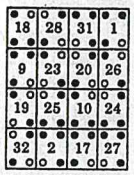
PLACEMENT



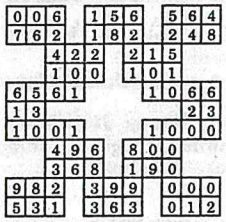
JIGSAW LOGIC



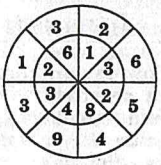
SUMSPOTS



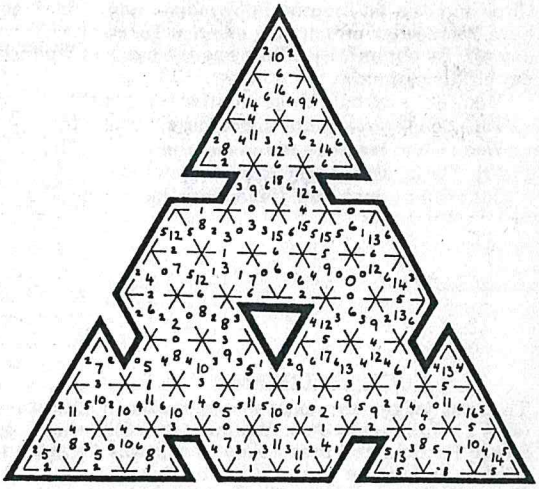
CROSS FIGURE



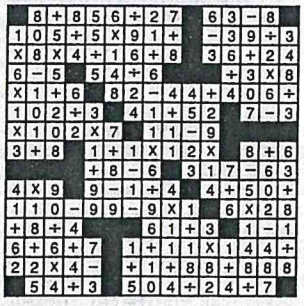
OUT AND AROUND



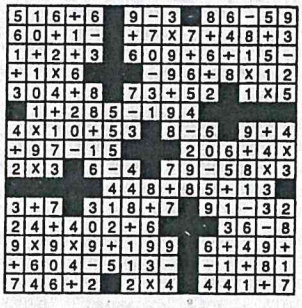
TRIGONS



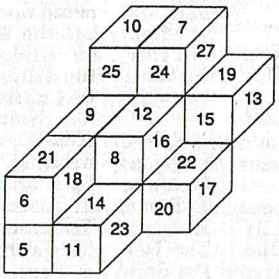
CROSSMATH 1



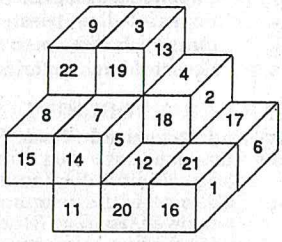
CROSSMATH 2



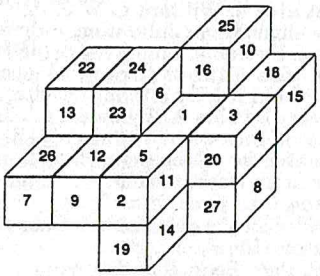
ON THE SURFACE 1



ON THE SURFACE 2



ON THE SURFACE 3



LOGIC PROBLEM 1

The last person to come in for lunch was not Pat (clue 2), Cindy (clue 3), or Fay (clue 4); it was Tina. The first person was neither Pat (clue 2) nor Fay (clue 4); it was Cindy. Cindy did not buy the coat (clue 1), dress (clue 3), or sweater (clue 4); she bought the skirt. By clue 2, then, Pat was the second person to come into Mall Munchies and the Style Shop shopper was the third. By elimination, Fay was third and made her purchase at the Style Shop. By clue 4, Pat's item came from Chic Boutique and Tina bought the sweater. By clue 1, the Fashion Box shopper did not come in last, so she was Cindy who bought the skirt and came in first and the coat purchaser, Pat, came in second. By elimination, Fay got the dress and Tina got the sweater at Clothes Galore. In summary:

1st: Cindy, skirt, Fashion Box
2nd: Pat, coat, Chic Boutique
3rd: Fay, dress, Style Shop
4th: Tina, sweater, Clothes Galore

LOGIC PROBLEM 2

Char has been employed seven months (clue 6). By clue 2, Poppy has been with the shop six months and the skin specialist 12. Bunny, the make-up specialist (clue 4), has Saturday off (clue 1). Since no one has Thursday off, by clue 5, the hair specialist has Monday off, the manicurist Tuesday, and the massage specialist Wednesday. By elimination, the skin specialist has Friday off. Tammy has Monday off (clue 3), so she is the hair specialist. By elimination, the skin specialist, who has been at the shop longest, is Carla. Bunny has not been at the shop three months (clue 1); she has been there eleven months, and the one there three months is Tammy. Poppy does not have Wednesday off (clue 2); she has Tuesday off. By elimination, Char has Wednesday off. In summary:

Mon.: Tammy, hair, three months
Tues.: Poppy, manicure, six months
Wed.: Char, massage, seven months
Fri.: Carla, skin, 12 months
Sat.: Bunny, make-up, eleven months

LOGIC PROBLEM 3

The last jockey to win was not Edward (clue 1), Julie (clue 2), or William (clue 3); it was Patrick. The first jockey to win was neither Julie (clue 2) nor William (clue 3); it was Edward. By clue 1, then, Cobbler won the second race and Bonnie Blue won the third. The first jockey was neither Week (clue 2) nor Ore (clue 3); it was Edward Arcade. By clue 4, William Cobbler was second; by elimination, Julie won third on Bonnie Blue. By clue 3, Blue Eyes won the first race with Edward Arcade and Julie Ore won the third; by elimination, Patrick is Week. By clue 2, Bobby's Choice won the second race with William Cobbler and, by elimination, Baby Bonnet won the last with Patrick Week. In sum:

1st: Edward Arcade, Blue Eyes
2nd: William Cobbler, Bobby's Choice
3rd: Julie Ore, Bonnie Blue
4th: Patrick Week, Baby Bonnet

LOGIC PROBLEM 4

Friday's winner was not Jonelle (clue 1), Gina (clue 2), Helise (clue 3), or Renee (clue 4); she was Annette. Annette's job was not answering the phone (clue 2), filing (clue 3), mail or typing (clue 5); it was the copy machine. The hours worked were 2 (clue 4), six (clue 3), three, four, and eight (introduction). The woman who worked two hours was not Jonelle (clue 1), Gina (clue 2), Renee or Annette (clue 4); she was Helise. The woman who distributed mail worked Thursday (clue 5). She was neither Jonelle (clue 1) nor Renee (clue 4). Annette worked either three or four hours, while Jonelle worked either six or eight (clue 1). Helise, then, did not win Thursday (clue 3); Gina did. By clue 2, Annette is Brown. The woman who won Wednesday was neither Jonelle (clue 1) nor Renee (clue 4); she was Helise. By clue 3, then, Gina worked for six hours, while the woman who did the filing won Tuesday. By clue 4, Gina is Ms. Franklin. By clue 1, then, Jonelle won Monday and Ms. Preston Wednesday; Ms. Preston is Helise. Renee, then, won Tuesday. By clue 2, Ms. Burnette worked three hours; she is not, then, Jonelle (clue 1); she is Renee, while Jonelle is Givens. By clue 1, Annette worked four hours, and Jonelle worked eight. Jonelle Givens did not answer the phone (clue 2); she typed, while Helise Preston answered the phone. In summary:

Mon.: Jonelle Givens, typing, 8
Tues.: Renee Burnette, filing, 3
Wed.: Helise Preston, phones, 2
Thurs.: Gina Franklin, mail, 6
Fri.: Annette Brown, copy, 4

LOGIC PROBLEM 5

Kraft is a man (clue 4). Felton is neither Joan (clue 3) nor Dorothy (clue 5); he is the other man, while Sowers and Yardley are women. A woman's sweatshirt was $45 (clue 1). It was neither crocheted (clue 1) nor embroidered (clue 6); it was either painted or appliqued. Dorothy's shirt was neither painted (clue 2) nor appliqued (clue 5), so she did not donate the $45 shirt; Joan did. Joan is not Yardley (clue 6); she is Sowers, while Dorothy is Yardley. Dorothy's shirt was not embroidered (clue 6); it was crocheted. Her shirt's category was not "unusual" (clue 2), "prettiest" (clue 6), or "colorful" (clue 7); it was "creative." By clue 7, the one entered in "colorful" was neither Charles's nor Joan's; it was Robert's. Joan's was not "prettiest" (clue 3); hers was "unusual" while, by elimination, Charles's was "prettiest." By clue 6, Dorothy's shirt sold for less than Charles's. By clue 7, it sold for more than Robert's. In order, then, the shirts were Joan's $45, Charles's $42, Dorothy's $36, and Robert's $28. By clue 6, then, Robert's shirt was embroidered. Robert is not Felton (clue 3); he is Kraft, while Charles is Felton. Joan's "unusual" shirt was not painted (clue 2); it was appliqued while, by elimination, Charles's shirt was painted. In summary:

Joan Sowers, appliqued, unusual, $45
Charles Felton, painted, prettiest, $42
Dorothy Yardley, crocheted, creative, $36
Robert Kraft, embroidered, colorful, $28

LOGIC PROBLEM 6

Amanda used Mozart (clue 10). She did not draw the elephant (clue 6), mouse (clue 7), bunny (clue 9), dog (clue 11), or cat (clue 12); she drew the penguin. She is not Swenser (clue 3), Kaplan (clue 4), Atkinson (clue 11), Vargas (clue 14), or Helmer (clue 15); she is Forszt and she drew Clara (clue 5). Her film was not first or last (clue 3), third or fifth (clue 8), or second (clue 13); it was fourth and she is from England (clue 6). Julie drew the mouse (clue 7). She is not Kaplan (clue 4), Helmer (clues 7 and 15), Atkinson (clue 11), or Vargas (clue 14); she is Swenser and her cartoon was shown third (clue 3), featuring the music of Vivaldi (clue 8). The mouse was not named Polly (clue 1), Barney (clue 3), Mortimer (clue 12), or Gus (clue 13); it was Zelda and Julie is from France (clue 2). By clue 4, Marcie is Kaplan. She is not from Canada (clue 2), Italy (clue 9), or Mexico (clue 14); she is from Germany. She did not draw the cat (clue 4), bunny (clue 9), or dog (clue 11); she drew the elephant and her cartoon was shown last (clue 6). The elephant was not named Polly (clue 1), Barney (clue 3), or Gus (clue 13); it was Mortimer, and Marcie used Handel (clue 12). Chuck drew Polly (clue 1), which was not the second film (clue 13) or the fifth (clue 8); it was first. Chuck is not the animator from Canada (clue 2) or Italy (clues 1 and 9); he is from Mexico and is Vargas (clue 14). Polly is not the bunny (clue 1) or dog (clue 11); Polly is the cat and Chuck used Strauss (clue 12). By clue 2, Dennis is from Canada. By elimination, Stu is from Italy and drew the bunny (clue 9) in the fifth cartoon (clue 8). By elimination, Dennis drew the second cartoon with Gus (clue 13), who, by elimination, is the dog. Dennis is Mr. Atkinson (clue 11) and, by elimination, Stu is Helmer, who used Bach (clue 15). By elimination, Stu's character is Barney and Dennis used Beethoven. In summary:

1: Polly, cat, Chuck Vargas, Mexico, Strauss
2: Gus, dog, Dennis Atkinson, Canada, Beethoven
3: Zelda, mouse, Julie Swenser, France, Vivaldi
4: Clara, penguin, Amanda Forszt, England, Mozart
5: Barney, bunny, Stu Helmer, Italy, Bach
6: Mortimer, elephant, Marcie Kaplan, Germany, Handel

LOGIC PROBLEM 7

Ms. Rogers's favorite was not visited on Monday (clue 6), Wednesday, Thursday, or Friday (clue 3); it was toured on Tuesday. By clue 6, the National Archives were toured on Monday, and the favorite of the South Carolina lawyer was visited on Wednesday. Ms. Piper's favorite was not toured on Wednesday, Thursday, or Friday (clue 3); it was visited on Monday, with the U.S. Capitol tour occurring on Thursday. Ms. Thompson's favorite was visited on Wednesday, with Carol's favorite toured on Friday (clue 4). The Pennsylvania woman's choice was visited on Friday (clue 3), so the California woman's fell on Thursday and Daphne's on Wednesday (clue 5). By clue 2, then, the Tennessee lawyer's favorite was visited on Tuesday. Also by clue 2, Marcia is Piper, and the Vietnam War Memorial was visited on Wednesday. By elimination, the Illinois woman is Marcia. The Washington Monument was visited on Tuesday (clue 5), so, by elimination, the White House trip was on Friday. Ms. Hildebrand did not select the White House (clue 1), so her favorite was visited on Thursday, while Ms. Luce's was visited on Friday. Susan is not Ms. Hildebrand (clue 1), so she is Rogers, and Kathy is Hildebrand. In summary:

M: Marcia Piper, Illinois, Nat'l Archives
T: Susan Rogers, Tenn., Wash. Monument
W: Daphne Thompson, S.C., VW Memorial
Th: Kathy Hildebrand, Calif., U.S. Capitol
F: Carol Luce, Penn., White House

LOGIC PROBLEM 8

Ms. Dunn's color was not gold or silver (clue 2), green or red (clue 4); it was blue. The girl in silver was not Ms. Smith (clue 1). By clue 5, she is a senior, and she is not Ms. Kelly; nor is she Ms. Moore (clue 3); she is Ms. Lamb. She is not Nancy (clue 1), Jan (clue 3), Kitty (clue 5), or Mary (clue 6); she is Betty. The one who finished fifth was neither a senior nor Ms. Kelly (clue 5); she was not Ms. Dunn (clue 4) or Ms. Moore (clue 6), so she was Ms. Smith. Ms. Smith did not wear gold (clue 2) or red (clue 4); she wore green. She is not Nancy (clue 1), Kitty (clue 5), or Mary (clue 6); she is Jan. The girl who placed first was not Ms. Dunn or Betty Lamb (clue 2) or Ms. Moore (clue 6); she was Ms. Kelly. She is not Kitty (clue 5) or Mary (clue 6); she is Nancy. Mary is not Ms. Moore (clue 6); she is Ms. Dunn, while Kitty is Ms. Moore. By clue 6, Betty Lamb placed second, Kitty Moore placed third, and Mary Dunn placed fourth. By clue 4, Kitty Moore wore red, while Jan Smith was from Wilson High. By elimination, Nancy Kelly wore gold. By clue 1, Kitty Moore was from Davis. Betty Lamb was from neither Ford (clue 2) nor Mann (clue 3); she was from Taft. By clue 3, the other senior, Mary Dunn, was not from Mann; she was from Ford, while Nancy Kelly was from Mann. In summary:

1st: Nancy Kelly, gold, Mann
2nd: Betty Lamb, silver, Taft
3rd: Kitty Moore, red, Davis
4th: Mary Dunn, blue, Ford
5th: Jan Smith, green, Wilson

LOGIC PROBLEM 9

The second and last jobs were at even-numbered houses (clue 4). The fifth job was not at 1904 (clue 1); it was at 1902, while the second job was at 1904. The light fixtures were installed third (clue 1). The family in 1902 was not the Littles (clue 1), the Abramses (clue 2), the Rices (clue 3), or the Coopers (clue 6); it was the Chambers family. Their room was not the nursery (clue 2), bedroom (clue 3), kitchen (clue 5), or family room (clue 6); it was the powder room. By clue 5, 1904 had a room recarpeted, while the kitchen was first. The fourth room was neither the nursery (clue 2) nor bedroom (clue 3); it was the family room. 1903, then, was third (clue 6). The bedroom was not at 1904 (clue 3), so it was not second; it was third, and the nursery was second at 1904. The Rices', then, was fourth (clue 3). By clue 2, then, the Abramses' was third, while the Rices had a window treatment. The Littles do not live at 1904 (clue 1), so they were not second; they were first while, by elimination, the Coopers were second. The Littles do not live at 1905 (clue 1); they live at 1901, while the Rices live at 1905. The Chamberses did not have the fan (clue 3); they had the wallpaper, and the Littles had the fan. In summary:

1: Little, 1901, kitchen, fan
2: Cooper, 1904, nursery, carpet
3: Abrams, 1903, bedroom, lights
4: Rice, 1905, family room, window
5: Chambers, 1902, powder room, wallpaper

LOGIC PROBLEM 10

Two shows received ☆☆☆ (clue 2) and two received ☆☆☆☆ (clue 4). "Ms. Bangkok" received ☆☆ (clue 1), so no shows received ☆. One day, O'Neill saw "Found in Yonkers," the next he saw the show at the Golden Globe, and the next he saw a ☆☆☆☆ show (clue 4). The Globe's show did not receive ☆☆☆ (clue 6), so it received ☆☆☆☆. "Found," then, received ☆☆☆ (clue 4). By clue 2, he saw the other ☆☆☆ show the day before "Found." In order, then, he saw a ☆☆☆ show Wednesday, "Found" Thursday, the ☆☆☆☆ Golden Globe show Friday, and another ☆☆☆☆ show Saturday. The other Saturday show, then, was ☆☆ "Ms. Bangkok." By clue 3, he went to The Thespian Thursday for "Found," while "Les Joyeux" was at the Globe Friday. By clue 7, he went to the 40th Street Playhouse for Saturday's matinee, and saw "Cellist in the Cellar" Saturday evening. ☆☆ "Ms. Bangkok," then, was at the 40th Street Playhouse, while "Cellist" won ☆☆☆☆. By elimination, he saw "Mutts" Wednesday. That was not at the Apollonia (clue 5); it was at the Uptown, while "Cellist" was at the Apollonia. In summary:

Wed.: Uptown, "Mutts," ☆☆☆
Thurs.: Thespian, "Found," ☆☆☆
Fri.: Globe, "Les Joyeux," ☆☆☆☆
Sat. mat.: 40th St., "Ms. Bangkok," ☆☆
Sat. eve.: Apollonia, "Cellist," ☆☆☆☆

LOGIC PROBLEM 11

By clue 2, Turturro is a woman, but she is neither Emma nor Mona, so she is Lisa. The person who chose the last movie is not Emma (clue 1), Mona (clue 2), Steve (clue 3), or Don (clue 4); she is Lisa. The person who chose the fourth movie is not Emma (clue 1), Mona (clue 2), or Don (clue 4), so he is Steve, and Lisa chose "Fantasia" (clue 3). The first movie wasn't "Birth of a Nation" (clue 2), "Godzilla" (clue 5), or "Gone With the Wind" (clue 6); it was "The Wizard of Oz." By clue 5, Waters did not choose "Godzilla," "Gone," or "Wizard," so he or she chose "Birth." The movie at the Ritz was not first, second, or fourth (clue 1), nor was it last (clue 6); it was third. By clue 1, then, Emma chose the first movie and Underwood the second. Also by clue 1, Underwood is a man, so Mona's movie was third; by elimination, Don's was second. By clue 2, Steve is Waters. Mona isn't Vale (clue 1), so Emma is; by elimination, Mona is Sayakuro. By clue 5, Mona chose "Godzilla," so Don chose "Gone." Lisa did not choose the Castle, King, or Palace theaters (clue 7), so she chose the Royale. By clue 4, the Castle was chosen by Steve. Emma did not choose the Palace (clue 7), so Don did; by elimination, Emma chose the King. In summary, from first to last:

Emma Vale, "The Wizard of Oz," King
Don Underwood, "Gone With the Wind," Palace
Mona Sayakuro, "Godzilla," Ritz
Steve Waters, "Birth of a Nation," Castle
Lisa Turturro, "Fantasia," Royale

LOGIC PROBLEM 12

Each of the six weeds was assigned to two children, so there were 12 assignments, and each child was assigned one, two, or three weeds (clue 1). By clue 2, then, the Hellman girl had three weeds, Joel had two weeds, and one of the girls had only dandelions. By clue 7, the Gorham boy had three weeds, Martha had two weeds, and one of the boys had only sorrel. Between them, the Hellman and Gorham children were assigned all six weeds (clue 6), so Joel and Martha between them were assigned grass, knotweed, onion grass, and purslane. By clue 3, Martha had purslane and Joel grass. Fred and the Cruz child both had knotweed (clue 9), so Fred is the Gorham boy; the Cruz child isn't Martha (clue 5), so is Joel. Martha's other weed, then, was onion grass. By clue 8, the Salmon child is Martha, and Kate, who had grass, is the Hellman girl; Fred, then, had onion grass. Mel was the boy who had only sorrel, and since his last name isn't Baron (clue 4), it is Moroni. By elimination, Ann Baron was the girl with only dandelions. Fred had dandelions (clue 2) and Kate sorrel (clue 7); by elimination, Kate's other weed was purslane. In summary:

Ann Baron, dandelions
Fred Gorham, dandelions, knotweed, onion grass
Joel Cruz, grass, knotweed
Kate Hellman, grass, purslane, sorrel
Martha Salmon, onion grass, purslane
Mel Moroni, sorrel

LOGIC PROBLEM 13

Ryan was just ahead of one of the Shapiro boys (clue 3), so he is not a Shapiro boy (clue 1); the other two boys, Andrew and Jason, then, are both named Shapiro. Ryan has one sister (clue 6), and there are two Delgado girls (clue 9), so Ryan and his sister are not named Delgado; they are the Martin twins. The Shapiro boy behind Ryan was ahead of the dragon (clue 3). Jason was ahead of the girl on the horse (clue 8), so the Shapiro boy behind Ryan was Andrew, who had a blue balloon (clue 7). The dragon behind him was not ridden by his brother (clue 1); a girl rode the dragon. Girls also rode the horse (clue 8) and giraffe (clue 9), so boys rode the lion, swan, and tiger. Elizabeth was behind the boy on the tiger (clue 2) and Sharon was behind the boy on the lion (clue 5), so Ryan, who had Andrew behind him, rode the swan and carried the orange balloon (clue 4). A boy held the green balloon (clue 6); by elimination he is Jason Shapiro, and girls held pink, purple, and yellow balloons. The girl with the purple balloon who sat behind Elizabeth (clue 2) is not Sharon, who sat behind the boy on the lion (clue 5); Patsy held the purple balloon and sat behind Elizabeth, who is Ryan Martin's sister, and ahead of Jason (clue 6); Patsy and Sharon are the Delgado girls. The girl on the horse behind Jason (clue 8), then, is Sharon, and Jason rode the lion (clue 5). The boy on the tiger in front of Elizabeth (clue 2), by elimination, is Andrew; Elizabeth rode the dragon (clue 3). By elimination, Patsy Delgado rode the giraffe; her sister Sharon didn't have the yellow balloon (clue 9), so Sharon had the pink balloon and Elizabeth Martin had the yellow. In sum:

Ryan Martin, swan, orange balloon
Andrew Shapiro, tiger, blue balloon
Elizabeth Martin, dragon, yellow balloon
Patsy Delgado, giraffe, purple balloon
Jason Shapiro, lion, green balloon
Sharon Delgado, horse, pink balloon

NUMBERAMA 1

A. 27 (+4 – 3 +5 – 3 +6 – 3 +7 – 3)
B. 43 (–16 –16 +6 +6 –16 –16 +6 +6)
C. 16 (x2 x2 – 4 – 8 x2 x2 –12 –16)
D. 36 (+16 ÷2 ÷2 x6 +16 ÷2 ÷2 x6)
E. 15 (x6 –14 –11 +4 x5 –13 –10 +3)
F. 12 (÷7 +7 +14 –12 ÷6 +6 +13 –11)
G. 2 (–9 +3 x2 – 8+4 x2 –7 +5 x2)
H. 3 (x8 –6 +7 ÷3 x7 –5 +6 ÷2)
I. 40 (+28 ÷4 –6 +26 ÷4 –6 +24 ÷4 –6)
J. 28 (÷14 +1 x2 x7 ÷14 +1 x2 x7)

LOGIC PROBLEM 14

The longest quest was not by Clyde (clue 2), Ariel (clue 7), or Ezra (clue 8). The one on the longest quest was not helped by the giant (clue 3), fortune teller (clue 7), or gnome (clue 8); he or she was helped by either the dwarf or the sorceress, neither of whom helped Bjorn (clue 5). Bjorn, then, did not make the 5-1/2-year quest; Delilah did. She did not seek the scroll (clue 1), potion (clue 4), quiver (clue 6), or sword (clue 9); she sought the chariot. She was not helped by the dwarf (clue 2); she was helped by the sorceress. The 4-year quest was not Clyde's (clue 2), Ariel's (clue 7), or Ezra's (clue 8); it was Bjorn's. He wasn't helped by the giant (clue 3), dwarf (clue 5), or fortune teller (clue 7); the gnome helped him. Bjorn did not seek the scroll (clue 1), so Ariel did not make the 3-year quest (clue 7). Nor did Clyde (clue 2); Ezra did. Neither Bjorn nor Ezra sought the quiver (clue 6). By clue 3, then, the quiver was the 28-month quest, and the giant helped the 16-month quester, who did not seek the sword, or the scroll (clue 7); he or she sought the potion. Ariel did not seek the potion (clue 4); Clyde did, and Ariel made the 28-month quest for the quiver. Ariel was not helped by the fortune teller (clue 7), so Ariel was helped by the dwarf, Ezra by the fortune teller. Bjorn did not seek the scroll (clue 1), so Ezra did, and Bjorn sought the sword. In sum:

Ariel, golden quiver, dwarf, 28 mos.
Bjorn, jeweled sword, gnome, 4 yrs.
Clyde, magic potion, gentle giant, 16 mos.
Delilah, silver chariot, sorceress, 5-1/2 yrs.
Ezra, ancient scroll, fortune teller, 3 yrs.

LOGIC PROBLEM 15

Thirty-five votes were cast, and each cowboy received a different number. By clue 4, the smallest number of votes was five. Even if the other numbers were as small as seven, eight, nine, and ten, the total would exceed 35, so the other cowboys received six, seven, eight, and nine. The cowboys who got the odd numbers were, in some order, Blaze, Buck, and the rider (clue 5). Buck didn't get five or nine (clue 2), so he got seven. By clue 4, the rider didn't get five, so he got nine; by elimination, Blaze got five. The shooter got an even number (clue 7), so by clue 6, he got eight, Buck was Magraw, and Tex was the rider. Copper's rider, then, got six (clue 7). By clue 4, Buck rode Patches. The shooter rode Blacky and Tex was Nash (clue 1). By clue 3, Buck was the singer and Carson was the shooter. Laroo rode Copper and Dusty rode Blacky (clue 4). By elimination, Blaze was Baron and Lefty was Laroo. Tex rode Lightning and Blaze was the roper (clue 2). By elimination, Lefty was the ladies' man and Blaze rode Socks. In summary:

9, Tex Nash, rider, Lightning
8, Dusty Carson, shooter, Blacky
7, Buck Magraw, singer, Patches
6, Lefty Laroo, ladies' man, Copper
5, Blaze Baron, roper, Socks

LOGIC PROBLEM 16

The tallest player is the center (clue 1), who is not from Polytechnic (clue 5), Our Lady of Sorrows (clue 7), Summerset Twp. (clue 8), or Wild Lake (clue 10); she is from Central City. She is 10" taller than the shortest (clue 1), so Bird, who plays forward, is 9" taller than the shortest (clue 4). Shelley is a guard (clue 7) so is not one of the two tallest; she and the 3"-shorter OLS recruit are among the three shortest. By clue 5, Keri, the 2"-shorter Ewing, and the 6"-shorter Polytechnic recruit are not the three shortest; Keri is either the center from Central City or forward Bird. If Keri were the center, the five heights would be (compared to the shortest): 10" taller, 9" taller, 8" taller, 4" taller, and the shortest, leaving no 3" interval for Shelley and the OLS recruit. So Keri is forward Bird, Ewing is 7" taller than the shortest, and the Polytechnic recruit is 3" taller than the shortest. Keri Bird is not from Summerset Twp. (clue 6), so she is from Wild Lake. Shelley is not the center, so Ewing is not from OLS (clue 7); Ewing is from Summerset. By elimination, the shortest player is from OLS; again by clue 7, Shelley is from Polytechnic. By clue 8, Didi plays center. Hannah is not Ewing (clue 6); Allison is, and Hannah is the shortest player from OLS. Allison isn't a guard (clue 3); she plays forward, and Hannah plays guard. Hannah is not Robinson or Wilkins (clue 2), so she is Jordan. Didi is not Robinson (clue 8), so she is Wilkins; Shelley, by elimination, is Robinson. Hannah Jordan is 5'4" (clue 9), so Shelley Robinson is 5'7", Allison Ewing 5'11", Keri Bird 6'1", and Didi Wilkins 6'2". In sum:

6'2" Didi Wilkins, center, Central City
6'1" Keri Bird, forward, Wild Lake
5'11" Allison Ewing, forward, Summerset
5'7" Shelley Robinson, guard, Polytechnic
5'4" Hannah Jordan, guard, Our Lady of Sorrows

LOGIC PROBLEM 17

Six travelers are female, four male. Six destinations appear in the clues, so the groups are: a man and a woman going to New York City on their honeymoon (clue 1); girls Sandy and Mandy and a parent (clue 2); Mr. Martin and Peter, each of whom is alone (also clue 2); two adult sisters (clue 7), and, by elimination, a third person alone. By clue 4, the woman going to college is one of the adult sisters; they are going to Pittsburgh (clue 3). More than one person is going home (clue 7); Sandy, Mandy, and parent are. One man is moving (clue 5), another going on business (clue 8). By elimination, the third lone traveler is going on vacation; he is Jake, who had seat 1C (clue 3). The lone travelers were men; Sandy and Mandy's parent is their mother. Since Sandy, Mandy, and their mother sat together, they sat in row 2. Martha, Mrs. Turner, and Laura Vine sat together (clue 1) in row 2; either Laura Vine or Mrs. Turner is the twins' mother. Five women sat in row 2; only one sat in row 1, with all four men. The woman in row 1 was with a man on her honeymoon to NYC. The sisters going to college sat in row 2; both are unmarried (clue 7), so Mrs. Turner is the twins' mother, while Martha and Laura Vine are sisters. Since Martha sat directly beside Mrs. Turner, Mrs. Turner sat in 2C. By clue 4, Jerry sat in either 1B or 1D, the woman going on her honeymoon in either 1A or 1E, and they are the Douglases, while Jake is going to Miami. Men are going to Los Angeles (clue 2) and Denver (clue 5). Mrs. Turner, then, is going to Kansas City and so is not Florence (clue 6); she is Janet. The three single men are Mr. Martin, Mr. Goldblum, and Mr. Morrison; Jake is not Martin (clue 2) or Goldblum (clue 3); he is Morrison. The man going on business sat in 1D (clue 8); Mrs. Douglas, who by elimination is Florence, sat in 1A, Jerry Douglas in 1B. By clue 2, Sandy and Mandy sat, in some order, in 2D and 2E; Martha sat in 2B and Laura in 2A (clue 1). The man who is moving is not going to Denver (clue 5); the man who is going on business is, while the man who is moving is going to Los Angeles (clue 2), and sat in 1E. By clue 2, Peter was moving to LA, and Mr. Martin was going to Denver on business. By elimination, Mr. Martin is George, while Peter is Goldblum. By clue 2, Sandy sat in 2D and Mandy in 2E. In sum:

1A: Florence Douglas, NYC, honeymoon
1B: Jerry Douglas, NYC, honeymoon
1C: Jake Morrison, Miami, vacation
1D: George Martin, Denver, business
1E: Peter Goldblum, Los Angeles, moving
2A: Laura Vine, Pittsburgh, college
2B: Martha Vine, Pittsburgh, college
2C: Janet Turner, Kansas City, home town
2D: Sandy Turner, Kansas City, home town
2E: Mandy Turner, Kansas City, home town

LOGIC PROBLEM 18

Clues 3 and 4 together list four projects completed consecutively: the one on Cherry, project C, the one by the hospital, and the stoplight; these four were done Monday, Tuesday, Wednesday, and Thursday, or Tuesday, Wednesday, Thursday, and Friday. Clue 2 lists three projects done consecutively: the one on Oak, the flashing light, and the one by the library. Those three can overlap with the projects from clues 3 and 4 in only two ways — the project on Oak was either the day before or the day after the one on Cherry. Since the project on Oak was not done Tuesday (clue 6), in either case, the project on Cherry was not done Monday. So the project on Cherry was Tuesday, project C Wednesday, the one by the hospital Thursday, and the stoplight Friday. By clue 6, project B was Monday and the one on Oak was project C on Wednesday; the flashing light was put by the hospital Thursday and the one by the library was Friday's stoplight (clue 2). By clue 7, then, the yield sign was Wednesday and project E was Tuesday. The crosswalk was project A, B, or C (clue 1) so it was not E Tuesday; it was project B Monday and, by elimination, Tuesday's project was the stop sign. Also by clue 1, project C — the yield sign on Oak — was by the bank, and the one on Elm was A. The one by the post office wasn't E (clue 7), so it was project B and was done Monday. The one on Maple, then, was done Friday (clue 5). By elimination, project A on Elm was done Thursday, Friday's project on Maple was D, Apple was on Monday, and Tuesday's project E was by the sCHool. In sum:

Mon.: crosswalk, Apple, post office, B
Tues.: stop sign, Cherry, school, E
Wed.: yield sign, Oak, bank, C
Thurs.: flashing light, Elm, hospital, A
Fri.: stoplight, Maple, library, D

NUMBER CODE

too, two, off, frost, moist, snowman: first woman.

TWO-PART MATH

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   279          315
  x 76        + 320
  1674          635
 1953
 21204
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LOGIC PROBLEM 19

Matt took Bach (clue 1), so Andrew Hines (clue 7) and Scott, in some order, took Chopin (clue 9) and Beethoven (clue 15). Beth, who took "Going My Way" and did not go Saturday (clue 2), did not take Vivaldi (clue 1) or Strauss (clue 12); she took Mozart and is DeCoeur (clue 10). Lucy went Thursday (clue 6). She did not take Vivaldi (clue 1); she took Strauss and "Casablanca" (clue 12). By elimination, Georgia took Vivaldi and went Saturday (clue 1). Scott took the science-fiction book but not the Degas print (clue 11), so he is not Burrows (clue 3), nor Ortega (clue 2) or Rosenbaum (clue 5); he is Sullivan and took "Ben-Hur" (clue 14). Georgia did not take "Gone With the Wind" (clue 6) or "African Queen" (clue 9); she took "Rear Window" and a biography (clue 4). She took Monet and is not Burrows (clue 3) or Rosenbaum (clue 5); she is Ortega. Lucy went Thursday and Georgia Saturday, so the men who took "African Queen" and Chopin came Monday and Tuesday or Tuesday and Wednesday (clue 9). Either way, Beth DeCoeur who took "Going" did not come Tuesday, nor Wednesday (clue 6) or Friday (clue 10); she came Monday and took a history (clue 13). She did not take Degas (clue 3), Renoir (clue 8), Chagall (clue 13), or Wyeth (clue 15); she took Picasso. Scott Sullivan who took "Ben-Hur" did not go Tuesday (clue 9) or Wednesday (clue 6); he went Friday. He did not take Bach (clue 1) or Chopin (clue 9); he took Beethoven and Wyeth (clue 15). Andrew Hines, by elimination, took Chopin, Wednesday (clue 9), along with "GWTW" (clue 6), while Matt took "African" Tuesday (clue 9) and Chagall (clue 13). He is not Burrows (clue 3); he is Rosenbaum and took mystery (clue 5), while Lucy, by elimination, is Burrows and took Degas. Andrew, then, took Renoir and fiction (clue 8) and Lucy took short stories. In sum:

Mon.: Beth DeCoeur: history, Mozart, "Going My Way," Picasso
Tues.: Matt Rosenbaum: mystery, Bach, "African Queen," Chagall
Wed.: Andrew Hines: fiction, Chopin, "Gone With the Wind," Renoir
Thurs.: Lucy Burrows: short story, Strauss, "Casablanca," Degas
Fri.: Scott Sullivan: science-fiction, Beethoven, "Ben-Hur," Wyeth
Sat.: Georgia Ortega: biography, Vivaldi, "Rear Window," Monet

LOGIC PROBLEM 20

These three people spent more than at least two others, and thus spent the three highest amounts, in some order: Hal, who did not buy the howell (clue 2), the howell's buyer, who was not Mr. Shaw (clue 4), and Mr. Shaw (clue 6). If the howell was the most expensive item, its buyer would not have been Schaffer (clue 2), Prucha (clue 4), or Parsons (clue 7); he would be Pickins. Pickins would not be Roy (clue 4), Ray or Charlie (clue 5); he would be Sam. This, however, would contradict clue 6, so the howell was not the most expensive item. The most expensive item was neither the purfling (clue 2) nor the croze (clue 6). If it had been the froe, its buyer would not have been Schaffer (clue 2), Prucha (clue 4), Pickins (clue 5), or Parsons (clue 7); he would be Shaw. Shaw would not be Roy (clue 4), Ray or Charlie (clue 5); he would be Sam. This, however, would contradict clue 6; the froe was not the most expensive tool. By elimination, the twybill was most expensive, and was bought by either Hal or Shaw. There was one $80 tool, which was neither the most nor second-most expensive (clue 7). By clue 1, the five tools together cost $500, and all costs were at least $15 apart. By clue 8, then, the $80 tool was not the least expensive. By clue 5, the sum of the highest price plus the lowest price equals the sum of the second-highest plus the second-lowest. Either sum, then, equals one-half of the total of $500 minus the price of the middle-priced tool. In addition, since the middle-priced tool was Hal's, Shaw's, or the howell, the sum of the two lowest-priced tools would equal the middle-priced tool. If the $80 tool were the middle-priced tool, by clue 1, there would be four possible costs: $195, 145, 80, 65, and 15; 190, 150, 80, 60, and 20; 185, 155, 80, 55, and 25; or 180, 160, 80, 50, and 30. The cost of the highest-priced tool equals the sum of the costs of two other tools (clues 2, 4, and 6), which is not true in any of these possibilities; the $80 tool was not the middle-priced tool. It was the second-lowest priced tool. By clue 1, then, the middle-priced tool cost at least $95 and at most $110. By clue 5, if the middle-priced tool had been either $95 or $105, the sum of the highest and lowest tools would not have been an even number of dollars ($500–$95 divided by 2, or $500–$105 divided by 2), contradicting clue 8. The middle-priced tool cost either $100 or $110. If it had been $110, then, by the previous reasoning, the lowest-priced tool would have been $30, the highest-priced tool $165, and the second-highest $115, contradicting clue 1. The middle-priced tool cost $100, the lowest $20, the highest $180, and the second-highest $120. The $100 item is mentioned in clues 2, 4, and 6. If that were Shaw's item, Hal's item and the howell would have been, in order, the two highest-priced items, while the croze and Sam's item would have been, in some order, the two lowest-priced items (clue 6). By clue 5, Shaw would be Roy, while Hal would be Pickins, Ray would have spent $20, Charlie would have bought the howell, and the froe would have been Sam's. Charlie would be Parsons (clue 7). However, Schaffer is neither Sam (clue 2) nor Ray (clue 3), so he would have no place. If the howell had cost $100, it would not have been Roy's (clue 4), Ray's or Charlie's (clue 5); it would have been Sam's. He would not be Schaffer (clue 2), Prucha (clue 4), or Pickins (clue 5); he would be Parsons. However, the howell would not be mentioned in clue 2. The $100 item was Hal's; the howell was the $120 item, and Shaw bought the $180 twybill. By clue 4, Hal is Prucha while Roy spent $20. By clue 6, Hal bought the croze, and Sam spent $80. By clue 7, Parsons bought the howell. Sam is not Schaffer (clue 2); he is Pickins, and Roy is Schaffer. Ray is not Shaw (clue 3); he is Parsons, and Charlie is Shaw. By clue 2, Sam Pickins bought the purfling and Roy Schaffer bought the froe. In sum:

Charlie Shaw, twybill, $180
Ray Parsons, howell, $120
Hal Prucha, croze, $100
Sam Pickins, purfling, $80
Roy Schaffer, froe, $20

HOW WELL DO YOU FOLLOW DIRECTIONS?

1. MYSTERYWRITER
2. MHSTERHWRITER
3. MHTERHWRISTER
4. MHTECHWRISTEI
5. MHTGCHWRISTEI
6. GHTMCHWRISTEI
7. GAHATAMCHWRISTEI
8. GAATHAMCHWRISTEI
9. AGATHAMCHWRISTEI
10. AGATHACHRISTEI
11. AGATHA CHRISTIE

LOGIC PROBLEM 21

Each walker stayed 61 minutes (clue 1), so each left by the same door at which he or she arrived. By clue 12, then, the first to arrive wore red, arrived at 7:32, and left at 8:33, while the last did so by the SW door, arriving at 8:22 and leaving at 9:23. Both arrived alone, so the first to arrive was not Sam (clue 2), Angela (clue 3), Mike (clue 4), Sharon (clue 5), Ted (clue 6), John (clue 7), or Martina (clue 10); she was Jennifer. Sharon, then, arrived at 8:22 (clue 5); she was last. She is not Connor (clue 3), Hale (clue 7), Fields (clue 10), Dillon or Evans (clue 13). She did not wear black (clue 2), yellow (clue 3), blue or orange (clue 8); she wore gray, green, or white. She is neither Gates nor Johnson (clue 11); she is Bradley. Mike, then, used the SE door, left at 9:13 (clue 4), and arrived at 8:12. By clue 9, the shoe store and the toyshop are on the north and south ends of the mall, in some order. If Sharon had walked C, she would have passed the south shop at 8:50; by clue 5, then, Sharon walked CC, and the dress shop was the WSW store. By clue 9, the bookstore was the ESE store, the shoe store N, and the toyshop S. Sam and the man in black arrived before 8:10 (clue 2), so the man in black is not Mike. The man in black passed the shoe store at 8:40 (clue 2), so he is not Ted (clue 6); he is John. By clue 3, Angela arrived by a southern door at 8:02 or by a northern door at 7:52. A 7:52 arrival for Connor, no matter which door he used, would not allow an 8:30 passing of the toyshop; Angela, Connor, and the one in yellow all arrived at 8:02 and left at 9:03, and Angela arrived at a south door. Since Sharon arrived at the SW door and went CC, Angela did not (clue 1); she arrived by the SE door and walked C. Mike, then, walked CC (clue 1). By clue 3, Connor arrived by a southern door; by clue 1, he arrived at the SW door and walked C. Neither Sam nor John are either Connor or the one in yellow (clue 2). Since only four people arrived by southern doors (clue 1), Jennifer, John, the one in yellow, and Sam arrived by northern doors. By clue 6, Ted is Connor. By elimination, Martina wore yellow. By clue 10, Fields is Angela, so Martina entered by the NE door; she walked CC (clue 3). John and Sam both arrived and passed the shoe store at the same time (clue 2); by clue 1, then, they walked in opposite directions — one arrived by the NE door and walked C and the other arrived by the NW door and walked CC; both arrived at 7:42 and left at 8:43 (clue 2). By clue 7, Jennifer is Hale; by elimination, she was the second to arrive by the NW door, and she walked C. John, then, arrived by the NW door and walked CC while, by elimination, Sam arrived by the NE door and walked C. By the arrival times and directions, the walker in blue was Sam, while the walker in orange was Mike (clue 8). Dillon and Evans are, in some order, Mike and Martina (clue 13); John and Sam are, in some order, Johnson and Gates. Mike is not Dillon (clue 13); Martina is, while Mike is Evans. The pet store is WNW (clue 13), and the hat store is ENE. If John were Gates, he would have passed the hat store at 8:05 and 8:35; if Sam were Gates, he would have passed the hat store at 7:45 and 8:15. The only other one who could have passed the hat shop at any of those times is Sharon, who passed the shop at 8:35; by clue 14, John is Gates, and Sharon wore white. By elimination, Sam is Johnson. Ted passed the pet store at 8:40, so he did not wear gray (clue 13); he wore green while, by elimination, Angela wore gray. In summary:

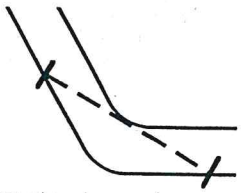
7:32–8:33, Jennifer Hale, red, NW, C
7:42–8:43, John Gates, black, NW, CC
7:42–8:43, Sam Johnson, blue, NE, C
8:02–9:03: Angela Fields, gray, SE, C
8:02–9:03, Ted Connor, green, SW, C
8:02–9:03, Martina Dillon, yellow, NE, CC
8:12–9:13, Mike Evans, orange, SE, CC
8:22–9:23, Sharon Bradley, white, SW, CC

LOGIC PROBLEM 22

Olga's story was neither #1 nor #6 (clue 5), so it is one of those stories mentioned in clue 2. She did not write about Oakleaf (clue 1), so she wrote about the creature in the cave. Wendy's story was not about the creature in the shoe (clue 8) so, by clue 11, Amy's was. A woman's story was #4 (clue 11). David's story was neither #5 nor #6 (clue 9). If it had been #1, Ms. Petrie's would have been #2 and the one about Walnut #3 (clue 9). Mr. Wilcox's would not have been about Walnut in #3 (clue 1), #1 or #6 (clue 2); it would have been #5. The story with the chipmunk would not have been #1 through #4 (clue 9), nor would it have been #5 (clue 7); it would have been #6. That story would not have featured the elf (clue 4), the sprite (clue 5), the brownie (clue 7), the gnome (clue 8), or the pixie (clue 9); it would have featured the dwarf. By clue 11, the one in #6 would have been a man's, but not Matt's; it would have been Paul's, while Matt would be Mr. Wilcox, and David's story would have been about Appleseed. Paul's story would not have been about Pinecone (clue 1), Oakleaf (clue 2), or Mapletwig (clue 8); it would have been about Dandelion. Dandelion would not have lived in a cave or shoe, since those stories were written by women, nor would it have lived in a tree (clue 4), under a rock (clue 5), or in a box (clue 9); it would have lived in the empty bird's nest. This, however, would contradict clue 6; David's story, then, was not #1. If David's story had been #2, Ms. Petrie's would have been #3 and the one about Walnut #4 (clue 9). That story would have been by a woman, but not Amy, who wrote about the creature in a shoe (clue 11), or Wendy (clue 1); it would have been by Olga, and Walnut would have lived in a cave. Olga's last name would not be Olson (clue 1), Moore (clue 5), or Drake (clue 10); it would be Armstrong. Her creature would not have been the sprite (clue 5), brownie (clue 6), pixie (clue 9), dwarf (clue 11), or elf (clue 12); it would have been the gnome. The gnome's friend would not have been the mouse (clue 3), fox (clue 5), deer (clue 6), chipmunk (clue 9), or squirrel (clue 11); it would have been the rabbit. Amy's story about the shoe, then, would not have been #1 or #6 (clue 2), or #3 or #5 (clue 8); there would be no position for that story. David's story, then, was not #2; his story was #3, Ms. Petrie's was #4, and the one about Walnut was #5 (clue 9). Amy's story about the shoe was not in #1 or #6 (clue 2), #4 (clue 11); her story was either #2 or #5. If it had been #2, by clue 2, Walnut's story would have been the one about the cave, and been Olga's; Ms. Petrie's would have been about Oakleaf by Wendy, and Mr. Wilcox would be David. By clue 5, however, there would have been no position for the one about the rock; Amy's story was not in #2, so it was in #5 and was about Walnut who lived in a shoe. Olga's story about the cave was in either #2 or #4 (clue 2). If it had been in #2, Wendy would be Ms. Petrie. By clue 2, Mr. Wilcox would be David, while Wendy Petrie would have written about Oakleaf. However, this again would leave no position for the story about the creature that lived under a rock (clue 5); Olga's story was not in #2, so it was in #4, and she is Ms. Petrie. By clue 5, the story about the creature who lived under a rock was in #2. Amy's last name is not Armstrong (clue 1), Moore (clue 5), or Drake (clue 10); it is Olson. By clue 11, Wendy's creature's friend was a squirrel. Olga Petrie's creature was not Oakleaf or Pinecone (clue 1), Dandelion (clue 4), or Appleseed (clue 11); it was Mapletwig. By clue 8, then, Drake's story was in #6. By clue 5, then, Moore's story was #1, while Pinecone was in Drake's story in #6. Wendy is not Drake (clue 8); her story was in either #1 or #2. If it had been in #1, Paul would not have written about Pinecone (clue 1), so Matt would have, while Paul's story would have been in #2. Paul's story would have been about the gnome (clue 8). Paul is not Armstrong (clue 6); he would have been Wilcox, while David would have been Armstrong. David Armstrong would not have written about Appleseed (clue 1), so Paul Wilcox would have, while David would have written about the dwarf (clue 11). David would not have written about Dandelion (clue 1); he would have written about Oakleaf, and Wendy would have written about Dandelion. By clue 5, then, David's dwarf's friend would have been the fox, while Amy's Walnut would have been a sprite. This, however, would leave no position for the story with the rabbit friend (clue 8); Wendy's story was not in #1, so it was in #2. Paul did not write about Pinecone (clue 1), so he is not Drake; Matt is while, by elimination, Paul is Moore. Mr. Wilcox, then, is David so, by elimination, Armstrong is Wendy. By clue 2, then, Wendy's creature was Oakleaf. David did not write about Dandelion (clue 1); he wrote about Appleseed, while Paul wrote about Dandelion. By clue 9, Matt Drake's Pinecone's friend was the chipmunk, while the creature that lived in a box was Paul Moore's Dandelion. Pinecone did not live in a tree (clue 4); it lived in an empty bird's nest, while Appleseed lived in a tree. By clue 9, the pixie was Wendy's creature. The sprite and the fox were, in some order, David's and Amy's (clue 5). If the sprite had been David's and the fox Amy's, the gnome would have been Paul's (clue 8). This, however, would leave no man to write about the dwarf (clue 11); the sprite was Amy's and the fox was David's. The dwarf was Paul's (clue 11), so the gnome was David's (clue 8). Matt Drake's creature lived in the nest, so it was not the brownie (clue 6); it was the elf, and the brownie was Olga's creature. By clue 8, Paul's Dandelion had a rabbit friend. Brownie Mapletwig's friend was not the deer (clue 6); it was the mouse, while the deer was Amy's Walnut's friend. In summary:

#1: Paul Moore's dwarf Dandelion, box, rabbit
#2: Wendy Armstrong's pixie Oakleaf, rock, squirrel
#3: David Wilcox's gnome Appleseed, tree, fox
#4: Olga Petrie's brownie Mapletwig, cave, mouse
#5: Amy Olson's sprite Walnut, shoe, deer
#6: Matt Drake's elf Pinecone, nest, chipmunk

A BEELINE FOR YOUR BUS LINE



Your street runs in a curve which you cut off by walking in the direction indicated.

MINUTE MATH

1. yes, with 7 tennis balls: 1L + 3S = 10T and 1L = 2S + 5T, so 2S + 5T + 3S = 10T, therefore S=T. 2. one window has 35 square yards, the other 42. Multiply by 15 cents for $11.55, then double, since he'll wash the inside and the outside. 3. one large pile. 4. 1/2 cent.

FENCING LESSONS

The longer side that does not contain the gate uses 24 feet more fence than a shorter side, while the side with the 4-foot gate uses 20 feet more. Subtracting the 44 extra feet from the 300 feet of fence leaves 256 feet to be divided into four equal sides, each the length of the short sides. So the short sides are 64 feet, and the longer sides (one including the 4-foot gate) are 88 feet.

LOST SUMS

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A.  5 6 3 7        B.   4 9 6 1
      1 9 8            2 7 3
        4 2              5 8
    -------          -------
    5 8 7 7          5 2 9 2
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KEEP IT BALANCED

Top-left quarter: deer; top-right: second kangaroo, second dog; bottom-left: second cat, two monkeys; bottom-right: second giraffe.

P.D.Q.

1. 12; 2. $70; 3. 2; 4. 12 cuts; 5. 7; 6. 8 feet; 7. 22488.

MATH TEASER

Since two collect all three items, 3 collect only stamps and cards, 6 only cards and coins, and 7 only stamps and coins. Of the twenty-five who collect coins, subtract two for the two who collect all three, 7 for those who collect both stamps and coins, and 6 for those who collect both cards and coins, totalling 10 who collect only coins. Similarly, 8 collect only stamps and 9 collect only cards.

NUMBERAMA 2

A. 43 (+13 – 8 +13 –10 +13 –12 +13 –14)
B. 60 (+10 +16 +17 +18 +10 +16 +17 +18)
C. 3 (x4 x6 +4 +4 x4 x6 +2 +2)
D. 12 (– 8 x8 –6 x6 – 4 x4 –2 x2)
E. 48 (+33 +4 – 4 +36 +3 – 3 +39 +2 –2)
F. 13 (x7 –7 +8 –9 x5 –5 +6 –7)
G. 42 (+3 +6 x3 +6 +2 +4 x2 +4)
H. 8 (x2 x4 +12 x2 x4 +8 x2 x4 +4)
I. 1 (+51 +4 +4 – 4 +51 +2 +2 –2)
J. 7 (–21 x3 – 42 –14 x6 – 32 –7 x9 –22)
K. 30 (+6 +6 x6 –12 +5 +5 x5 –11)

BAKER'S DOZEN

1. One cut yields two pieces, while 5 cuts yield six pieces; he'll get $2.50. 2. 9 people were 3/4 of the audience before the last people left, so before the last exit there were 12 people in the audience. Those 12 were 2/3 of the people after the first people left, so there were 18 after the first exit. Those 18 were 1/2 of the total audience, so the lecture began with an audience of 36. 3. A. b; B. d; C. b; D. d; 4. light the match first; 5. 2/3 the truck length plus six feet equals 3/3 the truck length, so 6 feet is 1/3 the length; the truck is 18 feet long. 6. 2: the center 14 is the total reached by the surrounding rectangles using the numbers from top to bottom; the top-left by addition, the top-right by subtraction, bottom-left by multiplication, and bottom-right by division (84÷3÷2=14). 7. The second had won six times more than the first, so he'd won twelve times; they had played 18 games. 8. The spade is the first or second card (clue 3), while the heart is third or fourth (clue 2). By clue 1, then, the order is either spade, diamond, club, heart; or diamond, spade, heart, club. By clue 4, the order is jack of spades, king of diamonds, queen of clubs, ace of hearts. 9. Since one player is eliminated per game, at least 99 games would be played; 10. from left to right: Mr. Right, Mr. Big, Mr. Broad, Mr. Huge, and Mr. Great; 11. six dozen dollars equals $72, while 6x12x12 dimes equal $86.40. The difference is $14.40. 12. A=2 and B=9; 13. A+1=B–1; B=A+2. Also, B+1=2(A–1). Substituting, 2(A–1)=(A+2)+1. 2A–2=A+3. 2A=A+5. Al has $5 and Betty has $7.

NUMBER DECATHLON

Event A: 14; Event B: 19 (arranged in order, the rest of the numbers are the series 3, 6, 9, 12, 15, 18, 21, 24, 27); Event C: 12 (* = 24); Event D: 3 (the first number in each row and column divided by the second number equals the third); Event E: 21; Event F: 24; Event G: 9 (6, 18, 27, 15); Event H: 15; Event I: 27; Event J: 18. Winning number: 6.

CROSS SUMS HELPS

1: 6948	2: 5812	3: 2759	4: 9426
5: 928	6: 746	7: 6589	8: 359
9: 1472	10: 8749	11: 5317	12: 8946
13: 497	14: 936	15: 4625	16: 6479
17: 318	18: 169	19: 3681	20: 4859
21: 6172	22: 7319	23: 579	24: 3978
25: 8492	26: 867	27: 357	28: 5231
29: 3169	30: 5986		

DEDUCTION PROBLEM 2

No student received the same mark twice and no two students received the same mark in any subject. In some order, 90 and 95 were Scott's Health (clue 1) and Science (clue 2) marks. Similarly, in some order, 90 and 95 were Joe's Science (clue 1) and History (clue 3) marks. In some order, then, Joe and Scott got the 90 and 95 in Science. By clue 4, Mary's History mark was lower than her Science mark, so she got 75 or 80 in History. Since her Health mark was also 75 or 80 (clue 2), her Science mark was 85. By clue 4, Joe got 85 in Health. In some order, 90 and 95 in English were earned by Janice (clue 1) and Mary. By clue 2, then, Jack got 85 in English, Scott got 90 in Science, and Mary got 75 in Health. Therefore, Scott got 95 in Health, Mary got 80 in History, and Joe got 95 in Science and 90 in History. Jack got 75 in Math (clue 3), so he got 80 in Science, 90 in Health, and 95 in History. By elimination, Janice got 80 in Health and 75 in Science. By clue 1, her English mark was 95, so she got 90 in Math and 85 in History. Mary, then, got 90 in English; her 95 was in Math. By elimination, Scott got 75 in History. Joe got 75 in English, so his 80 was in Math. By elimination, Scott got 85 in Math and 80 in English. In sum, with marks in the order of Math, English, History, Science, and Health:

Joe, 80, 75, 90, 95, 85
Janice, 90, 95, 85, 75, 80
Mary, 95, 90, 80, 85, 75
Jack, 75, 85, 95, 80, 90
Scott, 85, 80, 75, 90, 95

DEDUCTION PROBLEM 3

There are two boys, John and Lee (verse 4), and three girls, Ann, Sue (verse 1), and Trish (verse 3). Lee wrote the second verse, and has an older sister (verse 2). Verse 1 was written by a girl, as were verses 3 and 4, so verse 5 was written by a boy, and that boy was John, who is the oldest and so is 13. By verse 4, Lee has a younger sister. The nine-year-old is a girl (verse 3), so Lee is 7. Verse 4, then, was written by the 5-year-old. Verse 3 was not by the 9-year-old, so verse 1 was, while verse 3 was by the 11-year-old. Verse 1 was not by Sue, nor was it by Trish (verse 3); it was by Ann. Verse 3 was not by Trish, so it was by Sue while, by elimination, verse 4 was by Trish. In sum:

Verse 1: Ann, 9 — Verse 2: Lee, 7
Verse 3: Sue, 11 — Verse 4: Trish, 5
Verse 5: John, 13

WHAT'S THE ORDER?

3579. Since both b and d received only Xs, and 4 is in different positions in each, 4 is not in the solution. If the 1 in d were an X, the 1 in a would be its 0 and the 5 would not be in the solution. The 9 in a would not be its X since the 9 in d is in a different position, so 9 would not be in the solution. The 2, then, would be a's X, so it would also be c's X. However, d's second X would then be the 7, and it would be a second X for c. Therefore, the 1 in d is not correct; it is not in the solution. Both the 7 and 9 in d, then, are in the solution in the third and fourth positions respectively. The 9 in a, then, is its 0, while the 7 in c is its X. The 2 in a, then, is not its X, so it is not in the solution. In addition, neither the 6 nor 8 in b is its X; the 3 is the X in b, while the 5 is the 0 in c.

WORD ARITHMETIC

	0 1 2 3 4 5 6 7 8 9
1.	A/R U S T Y/L O C K
2.	E D I T/C O L U M N
3.	W H I T E/F L A G S
4.	H O U S E/P A R T Y
5.	F R I E D/B A C O N
6.	M U S I C A L/K E Y
7.	M A G I C/B O X E S
8.	R O U N D/F L A M E
9.	M Y/L O N G/H I K E
10.	B A S I N/C O V E R
11.	T A L C/P O W D E R
12.	D R E A M S/I T/U P
13.	M A P/S E C T I O N
14.	S T O R Y/G U I D E
15.	S P E C I F Y/H O W
16.	O C E A N/T R I P S
17.	U M B E R/P A I N T
18.	P A R T Y/N O I S E
19.	I D L E S/R O U G H
20.	F L A M I N G/H O T
21.	W E A R I N G/O U T
22.	G L U M/T O P I C S
23.	F R E S H/C A N D Y
24.	M Y/R E D/W A G O N
25.	T H E R M O S/J U G
26.	A/B L U E/N I G H T
27.	W R O T E/M U S I C
28.	P R O U D/B E A S T
29.	A B D U C T I O N S
30.	H O T E L/M A I D S
31.	F A S T-M O V I N G
32.	B O T C H I N G/U P
33.	I N O C U L A T E D
34.	J I T N E Y/C A B S
35.	S A Y/T H E/W O R D
36.	U P B E A T/S O N G
37.	M A G I C/P O W E R
38.	I/S P Y/O N/T H E M
39.	F R A C T I O N E D
40.	L A R G E/S T U D Y
41.	C R U E L/G I A N T
42.	F O U R-P H A S E D
43.	S T A N D/U P/F O R
44.	F O G/B L A N K E T
45.	E N G L I S H/B O Y
46.	F O R M I D A B L E
47.	F L I M S Y/C A P E
48.	I/S E T/M Y/G O A L
49.	P O U L T R Y/M A N
50.	W E/H A D/I N P U T
51.	E L V I S/O N/A/C D
52.	I N O C U L A T E S
53.	E B O N Y/C H A I R
54.	F R O Z E N/M I L K
55.	H A U L/D E B R I S
56.	S U B L I M A T E D
57.	E N J O Y/M U S I C
58.	G O L D E N/H A I R
59.	F I V E/P R O N G S
60.	N A T U R E/S H O W
61.	B A D/F O R T U N E
62.	I T C H Y/E L B O W
63.	Q U I C K/F A W N S
64.	G R A V E L/P I T S
65.	V I O L E T/B U D S
66.	P I S M O/B E A C H
67.	P L U S H/M A N O R
68.	S P L I T/B O A R D
69.	M Y/D I A L O G U E
70.	J O U R N A L I S T
71.	S U I T/H A N G E R
72.	B U L K Y/S H I R T

(97)

LOGIC PROBLEM 23

Two couples are from Maryland (clue 1) and two from Texas (clue 5); the single woman or one couple are from each of the other States and Canada. By clue 8, the single woman is Maggie, Marion, or Marsha from Massachusetts or Missouri, or Claudine from California. One man is from California (clue 1), another from Massachusetts (clue 3), so the single woman is from Missouri; her first name begins with "M." One couple share first initials and are from Maryland or Texas (clue 3). Jean is married to a Roger or a Gordon (clue 3), and Ruth and Rella are not married to men whose names begin with "R" (clue 4); the couple who share initials is Betty and either Bill or Bob. Betty is not from Texas (clue 5), so she is from Maryland. Bill is not from Maryland (clue 1), so Bob is Betty's husband. They are not the Ackroyds (clue 2), so by clue 4, they are the Nelsons and Bill is Mr. Ackroyd. Neither Roger is Stanton (clue 2), so by clue 6 one is Smith, the other Pfrank or Phillips. Roger Smith is not from California (clue 1) or Canada (clue 2); by clue 9, then, he is from Massachusetts. Jean's husband is a Gordon or Roger and the other Gordon or Roger is from Texas (clue 3). If Jean were married to a Roger, she would be Jean Smith from Massachusetts; however, she would not then be mentioned in clue 5. So she is not married to a Roger; she is married to a Gordon, and the other Gordon is from Texas. The single woman from Missouri has first-initial "M"; by clue 9, she is Maggie, while Eleanor and the McGibbonses are from California and Canada in some order. Roger Smith from Massachusetts must be mentioned in clue 5, so he is Marsha's husband. Marsha and Maggie are the two women whose first initials match their States (clue 8), so Claudine is not from California. Marsha and Betty are two of the three women whose first names precede their husbands' alphabetically, while Claudine's does not (clue 3). She is not married to Al (clue 7), so she is married to Art or to Bill Ackroyd. If she were married to Art, they would be from either Pennsylvania or Vermont (clue 4); Claudine is from neither Pennsylvania nor Vermont (clue 7), so she is not married to Art. Claudine's husband is Bill Ackroyd. Art and Al are married to Ruth and Rella in some order, while Dan and Don are from Pennsylvania and Vermont in some order (clue 4). We have placed single-woman Maggie from Missouri, Bob and Betty Nelson from Maryland, Gordon from Texas, Gordon and Jean, Bill and Claudine Ackroyd, Roger and Marsha Smith from Massachusetts, Roger Pfrank or Phillips, Al, Art, Dan, and Don. The last two couples are Virginia and her husband and Mr. DiFrancesco (clue 4). Bill and Claudine Ackroyd are from New Hampshire or Texas (clue 5). Gordon from Texas isn't married to Helen (clue 1), Marion (clue 2), Eleanor, who is from California or Canada (clue 9), or Ruth or Rella (who are married to Art and Al, in some order); Texan Gordon's wife is either Linda or Wadie. If he were married to Linda, their last name would be Stanton or Johnstone (clue 2). If he were married to Wadie their last name would not be Ludwig (clue 1), Johnstone, Stanton (clue 2), Bates, McGibbons, Pfrank, or Risley (clue 5); it would be either Phillips or Hyde. In any of those cases, Gordon and his wife are named in clue 7. Since only one couple from each State is mentioned in clue 7, Claudine Ackroyd is not from Texas; she and Bill are from New Hampshire. Gordon and Jean aren't from Texas or New Hampshire so, by clue 5, their last name is Bates, McGibbons, Pfrank, or Risley. By clue 2, then, they are from Canada, Delaware, or Illinois. If they were from Delaware or Illinois, they would not be named in clue 7; they are from Canada. By clue 9, then, they are the McGibbonses, and Eleanor is from California. Her husband isn't DiFrancesco (clue 1), Art, Al, Dan, or Don (clue 4); she is married to Roger Pfrank or Phillips. She is not Pfrank (clue 5), so she is Phillips. The Stantons are not from Illinois (clue 2), so by clue 6, Gordon from Texas is Stanton and the couple from Illinois is the Pfranks. Wadie is not Mrs. Stanton (clue 2), so Linda is. Art is not from Texas or Mr. Pfrank from Illinois (clue 5), nor is he from Delaware (clue 10); he is from Maryland. His wife, then, is not Rella (clue 1); she is Ruth, and Al is married to Rella (clue 4). The three remaining women are Helen, Marion, and Wadie; they are married, in some order, to Mr. DiFrancesco, Don, and Dan. Mr. DiFrancesco is not married to Helen (clue 1); he is married to Marion or Wadie. By clue 2, then, Mr. DiFrancesco is not from Delaware or Illinois; he is from Texas. He is not, then, married to Marion (clue 2); he is married to Wadie. Since Gordon and Linda Stanton from Texas appear in clue 7, the DiFrancescos do not; Mr. DiFrancesco is not Francis, so he is John, and Virginia's husband is Francis. Mr. Ludwig is not Francis, Art, Al (clue 1), or Don (clue 5); he is Dan. He is not married to Helen (clue 1); he is married to Marion and, by elimination, Don is married to Helen. By clue 2, Don and Helen are the Johnstones. Art is not Bates, Pfrank, or Risley (clue 5); he is Hyde. Marion is not from Vermont (clue 2), so by clue 4, Dan and Marion are from Pennsylvania while Don and Helen are from Vermont. Virginia and Francis are not from Delaware (clue 10), so they are the Pfranks from Illinois; by elimination, Al and Rella are from Delaware. Al and Rella aren't the Risleys (clue 8); they are the Bateses. Maggie is Risley. In sum:

Bill and Claudine Ackroyd, New Hampshire
Al and Rella Bates, Delaware
John and Wadie DiFrancesco, Texas
Art and Ruth Hyde, Maryland
Don and Helen Johnstone, Vermont
Dan and Marion Ludwig, Pennsylvania
Gordon and Jean McGibbons, Canada
Bob and Betty Nelson, Maryland
Francis and Virginia Pfrank, Illinois
Roger and Eleanor Phillips, California
Maggie Risley, Missouri
Roger and Marsha Smith, Massachusetts
Gordon and Linda Stanton, Texas

FUN SETTEE

By clue 8, the person on the left side of Ima wore a beanie and the person on the right side of her used a squirting pen. That person with the squirting pen did not use parchment (clue 2), so he or she used a money pad. He or she didn't wear a beanie (clue 1), and was thus not on the far right end of the couch (clue 4); there was at least one other staffer on the right side of Ima. The person next to Ima with the beanie didn't use a money pad (clue 1); he or she used parchment and disappearing ink (clue 2). By clue 3, that person was not on the far left end of the couch, so there was one more employee on that end; Ima was in the center of the five. The person on the far left had a squirting pen (clue 3) and a money pad (clue 2), but neither a beanie (clue 1) nor a clown nose (clue 3). The person on the far right had a beanie (clue 4), parchment (clue 1), and disappearing ink (clue 2). Neither person with both a beanie and disappearing ink had a clown nose (clue 5). By clue 6, then, Ima and the person on the right side of her, who is Stan, had clown noses. Ima also had a squirting pen (clue 5) and a money pad (clue 2). By clue 7, Warren was the person on the far left without a beanie. Penny was seated between Ima and Warren (clue 8) and, by elimination, Wayne was on the far right. In summary, from left to right:

Warren Pease, squirting pen, money pad, neither beanie nor nose
Penny Weiss, disappearing ink, parchment, beanie
Ima Plummer, squirting pen, money pad, clown nose
Stan Doff, squirting pen, money pad, clown nose
Wayne Dwopp, disappearing ink, parchment, beanie

MATHEMATICAL DEDUCTION

1. 15, add left and bottom, subtract right; 2. 25, subtract bottom from left, multiply by right; 3. 7, divide left by right, add bottom; 4. 2, multiply right and bottom, divide by left; 5. 12, multiply left and right, divide into bottom.

FIGURE LOGIC HELPS

5: 3-Down is 34.
6: 20-Across is 117.
7: 11-Across is 76.
8: First digit of 7-Across is 7.
9: 1-Across is 29 and begins in the second box across.
10: 14-Down's second digit is 6.
11: First digit of 20-Across is 4.
12: 28-Across's first digit is 3.
13: Last digit of 20-Across is 7.
14: 10-B is 73.
15: Last digit of 17-Across is 4.

CROSSMATH HELP

#1: 44-Down is 90 ÷ 6 x 4

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This is the last page of this magazine.
Pages 99 and 100 were miscellaneous advertisements.